Closing the Summer Learning Gap for Vulnerable Children:

An Examination of a Summer Family Literacy Program for Junior Kindergarten Children At-Risk for Reading Difficulties

by

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Abstract

The learning gap created by summer vacation creates a significant breach in the learning cycle, where student achievement levels decrease over the course of the summer (Cooper et al., 2000). In a review of 39 studies, Cooper and colleagues (1996) specified that the summer learning shortfall equals at least one month loss of instruction as measured by grade level equivalents on standardized test scores. Specifically, the achievement gap has a more profound effect on children as they grow older, where there is a steady deterioration in knowledge and skills sustained during the summer months (Cooper et al., 1996; Kerry & Davies, 1998). While some stakeholders believe that the benefits of a summer vacation overshadow the reversing effect on achievement, it is the impact of the summer learning gap on vulnerable children, including children who are disadvantaged as a result of requiring special educational needs, children from low socioeconomic backgrounds, and children learning English as a second language, that is most problematic. More specifically, research has demonstrated that it is children's literacy-based skills that are most affected during the summer months. Children from high socioeconomic backgrounds recurrently showed gains in reading achievement over the summer whereas disadvantaged children repeatedly illustrate having significant losses. Consequently, the summer learning gap was deemed to exaggerate the inequality experienced by children from low socioeconomic backgrounds. Ultimately, the summer learning gap was found to have the most profound on vulnerable children, placing these children at an increased chance for academic failure.

A primary feature of this research project was to include primary caregivers as authentic partners in a summer family literacy program fabricated to scaffold their children's literacy-based needs. This feature led to the research team adapting and implementing a published study entitled, *Learning Begins at Home (LBH): A Research-Based Family Literacy Program*

Curriculum. Researchers at the Ontario Institute designed this program for the Study of Education, University of Toronto. The LBH program capitalized on incorporating the flexibility required to make the program adaptable to meet the needs of each participating child and his or her primary caregiver. As it has been well documented in research, the role primary caregivers have in an intervention program are the most influential on a child's future literacy success or failure (Timmons, 2008). Subsequently, a requirement for participating in the summer family literacy program required the commitment of one child and one of his or her primary caregivers. The primary caregiver played a fundamental role in the intervention program through their participation in workshop activities prior to and following hands on work with their child. The purpose of including the primary caregiver as an authentic partner in the program was to encourage a definitive shift in the family, whereby caregivers would begin to implement literacy activities in their home on a daily basis. The intervention program was socially constructed through the collaboration of knowledge. The role of the author in the study was as the researcher, in charge of analyzing and interpreting the results of the study.

There were a total of thirty-six (36) participants in the study; there were nineteen (19) participants in the intervention group and seventeen (17) participants in the control group. All of the children who participated in the study were enrolled in junior kindergarten classrooms within the Niagara Catholic District School Board. Once children were referred to the program, a Speech and Language Pathologist assessed each individual child to identify if they met the eligibility requirements for participation in the summer family literacy intervention program. To be eligible to participate, children were required to demonstrate having significant literacy needs (i.e., below 25%ile on the Test of Preschool Early Literacy described below). Children with low incident disabilities (such as Autism or Intellectual Disabilities) and children with significant

English as a Second Language difficulties were excluded from the study. The research team utilized a standard pre-test—post-test comparison group design whereby all participating children were assessed with the Test of Preschool Early Literacy (Lonigan et al., 2007), and a standard measure of letter identification and letter sound understanding. Pre-intervention assessments were conducted two weeks prior to the intervention program commencing, and the first set of the post-intervention assessments were administered immediately following the completion of the intervention program. The follow-up post-intervention assessments took place in December 2010 to measure the sustainability of the gains obtained from the intervention program.

As a result of the program, all of the children in the intervention program scored statistically significantly higher on their literacy scores for Print Knowledge, Letter Identification, and Letter Sound Understanding scores than the control group at the post-intervention assessment point (immediately following the completion of the program) and at the December post-intervention assessment point. For Phonological Awareness, there was no statistically significant difference between the intervention group and the control at the post-intervention assessment point, however, there was a statistically significant difference found between the intervention group and the control group at the December post-intervention assessment point. In general, these results indicate that the summer family literacy intervention program made an immediate impact on the emergent literacy skills of the participating children. Moreover, these results indicate that the summer family literacy intervention program has the ability to foster the emergent literacy skills of vulnerable children, potentially reversing the negative effect the summer learning gap has on these children.

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CHAPTER 1

INTRODUCTION

Scarborough and Dobrich (1994) declared that "it is common knowledge that reading to young children is important" (p. 245). Lonigan (2006) furthered this argument stating that "learning to reading and write is a key developmental milestone in a literate society" (p. 91). More specifically, it has been found that children who are exposed to literacy early and are able to successfully read at a young age, are more likely to be keen readers than their same-aged peers who experience significant problems when learning to read (Lonigan, 2006). Lonigan (2006) argued that "well-developed reading skills serve as the cornerstone to acquiring content knowledge in other domains both in school and throughout life" (p. 92). Through reading, children are exposed to an expansive vocabulary, which contributes to their acquisition of a variety of language skills, while broadening their own vocabulary in the process. Research has found that children who have difficulty learning to read are less likely to read than their same-aged peers, and are more likely to experience ongoing problems when learning to read and write, subsequently limiting their exposure to a more expansive vocabulary and restricting the acquisition of other language-related skills (Lonigan, 2005; Scarborough & Dobrich, 1994).

While the majority of children do not experience significant problems when learning to read, there are a considerable number of children who experience substantial difficulties with this process. As Bailet, Repper, Piasta, and Murphy (2009) suggested, children enter kindergarten with capricious states of readiness for formal instruction as a result of the quality of early learning experiences and environments children are exposed to prior to enrolment in formal schooling. "It is estimated that up to 40% of children enter kindergarten, one or more years

behind their peers in critical language and reading readiness skills" emphasizing the importance of prevention and early intervention during the preschool years (Bailet et al., 2009, p. 336).

Regardless of the increase in research on emergent literacy, where children's acquisition of literacy has been found to develop prior to formal schooling, children are not being provided with equal opportunity to acquire the necessary basic literacy skills (Young, 2009). Massetti (2009) stated that "research findings have consistently documented that children living in low-income environments enter school with lower levels of skills necessary for becoming good readers, and continue to trail behind peers from middle- and upper-income backgrounds throughout school" (p. 554). Early identification of children who are at-risk for reading difficulties, especially for those children who are from low socioeconomic backgrounds, is pertinent for later academic success. If children who are having difficulty with emergent literacy skill development are identified early, it is more likely that these children will become competent readers while preventing the development of any further difficulties. Throughout research, the negative impact summer vacation has on vulnerable children's development of literacy skills has been well-documented, identifying the need for emergent literacy programs to be developed to support these young, vulnerable learners.

Contained within current academic calendars across North America, the learning gap created by summer vacation creates a significant breach in the learning cycle, where student achievement levels decrease over the course of the summer (Cooper et al., 2000). In a review of 39 studies, Cooper and colleagues (1996) specified that the summer learning shortfall equals at least one month loss of instruction as measured by grade level equivalents on standardized test scores, whereby children's test scores were at least one month lower when they returned to school in the fall than scores were when children left in the summer. Furthermore, the

achievement gap has a more profound effect on children as they grow older, where there is a steady deterioration in knowledge and skills sustained during the summer months (Cooper et al., 1996; Kerry & Davies, 1998). While some stakeholders believe that the benefits of a summer vacation overshadow the reversing effect on achievement, it is the impact of the summer learning gap on disadvantaged children that is most troublesome. In Cooper and colleagues' (1996) review, it was found that children indicated having little or no achievement gains over the summer break, and on average, children experienced a loss of one to three months of learning during summer vacation. More specifically, the summer learning gap was found to enhance the inequality experienced by children from low socioeconomic backgrounds (Cooper et al., 1996). One of the primary objectives of the present study was to identify a summer family literacy program that supports young, vulnerable learners in their development of emergent literacy skills.

As indicated by Timmons (2008), literacy interventions are most powerful when they included family involvement. Primary caregivers play an essential role in "developing children's meaningful literacy learning since they are the most [unvarying] people in their child's life" (Doyle, Hipfner-Boucher, & Pelletier, 2008). In response to the literature surrounding the significant role parental involvement has on children's literacy acquisition, the role of the caregiver was equally important to the intervention program.

Given the abundance of literature surrounding the summer learning gap, young vulnerable learners, and the family literacy environment, the present study is attempting to fill the gap in literature concerning effective summer family literacy programs for vulnerable learners. This study explores the efficacy of a summer family literacy intervention program as an

effective measure for reversing the negative effect of the summer learning gap and preventing future reading failure among children.

CHAPTER 2

LITERATURE REVIEW

The Development of Literacy in the Early Years

Literacy is a key foundation for children's future academic success (Carter, Chard, & Pool, 2009). Correspondingly, children who develop sound literacy-based skills at a young age are more likely to acquire knowledge in several academic domains (Massetti, 2009). Research on children's acquisition of literacy has indicated that children learn a significant amount of literacy skills prior to attending formal instruction in school. Emergent literacy refers to the "skills [that] are predictive of children's early reading success, and literacy achievement in early schooling declines more rapidly for children who are below-average readers" (Wilson & Lonigan, 2009, p. 1). Massetti (2009) as well as Wilson and Lonigan (2009) discussed how the focal point of interventions for children at-risk for reading difficulties should be centred on the constructs of emergent literacy.

By definition, emergent literacy refers to the "skills, knowledge, and attitudes that are developmental precursors to reading and writing" (Massetti, 2009, p. 555). The term was first formulated by Teale and Sulzby in 1986 to create a distinction from the traditional perspective on literacy, whereby children were required to have a certain level of cognitive maturation, in addition to explicit pre-literacy skills, prior to learning to read and write (Senechal, LeFevre, Smith-Chant, & Colton, 2001). Emergent literacy theorizes the attainment of literacy on a developmental continuum with its foundation beginning early in the life of a child, rather than as an "all-or-nothing phenomenon" (Whitehurst & Lonigan, 1998, p. 848) that begins when children first enter the formal schooling environment (Wilson & Lonigan, 2009). Consequently, there is no succinct margin distinguishing pre-literacy skills from reading ability (Elias, Hay,

Homel, & Freiberg, 2006; Lonigan, 2006). Alternatively, the development of literacy ought to be theorized as a continuation linking the pre-literacy skills practiced by young children with the literacy skills acquired by older children in formal school settings, as advised by Whitehurst and Lonigan (1998). Research emphasizes the importance of emergent literacy skills in predicting later literacy achievement (Lonigan, 2006; Massetti, 2009). Additionally, research accentuates the importance of preschool-age capabilities in developing essential emergent literacy skills for future reading success (Lonigan, 2006). As indicated by the emergent literacy perspective, most children enter the formal school system with a significant amount of literacy-based knowledge obtained during the preschool years (Justice & Kaderavek, 2004).

As Justice, Chow, Capellini, Flanigan, and Colton (2003) indicated, emergent literacy refers to the basis upon which "children's conventional reading and writing skills are built" (p. 320). Moreover, it describes the basis of behaviours and skills that children require to make the transition to the pre-literacy stage and subsequently, to the achievement of the conventional, accomplished, literate stage (Justice et al., 2003; Justice & Kaderavek, 2004). Correspondingly, social interactions in environments that are rich in literacy, aid young children who are not yet able to read, in their attainment of emergent literacy skills (Whitehurst & Lonigan, 1998).

Importance of Emergent Literacy

The attainment of emergent literacy skills is essential for children's future academic success (Massetti, 2009; Lonigan, 2006). Justice and Kaderavek (2004) insisted that the early achievement of emergent literacy skills is fundamental for the successful transition of children from pre-readers to readers. Similarly, research has indicated a correlation concerning children's exposure to emergent literacy tasks during preschool or kindergarten and later literacy achievement, emphasizing the importance of emergent literacy (Jordan, Snow, & Porche, 2000;

Justice et al., 2003; Massetti, 2009; Roberts, Jurgens, &Burchinal, 2005). More specifically, children who struggle with emergent literacy skills are more likely to demonstrate having difficulties later in reading achievement (Justice & Kaderavek, 2004; Roberts et al., 2005).

Emergent literacy skills are critical for children entering elementary school. However, this is not to say that children who illustrate having poor literacy skills will not be able to succeed academically. Emergent literacy skills are important as school curriculums are based on age-level rather than skill-level, where children's deficits, particularly literacy deficits, will be exaggerated as each section in the curriculum is covered. Unfortunately, this will only increase the achievement gap between these children and their same-age peers, leaving those children who have poor literacy skills behind academically (Whitehurst & Lonigan, 1998). For those children who have poor emergent literacy skills, they are at an increased risk for developing reading difficulties. As Whitehurst and Lonigan (1998) stated, "literacy is too important to a child's life-long process for [the] schools to give up on children who are not prepared for the typical reading curriculum" (p. 866). Through the development of intervention programs, such as emergent literacy interventions and/or skills-based literacy instruction, the emergent literacy skills of children who are at-risk for reading difficulties can be enhanced. However, it is extremely important that children who display deficits in emergent literacy skill attainment are still taught to read in an efficient way that will only aid children in attaining proper literacy skills. When children demonstrate having poor literacy skills and are not taught the basic literacy skills, this will only hinder their later development (Whitehurst & Lonigan, 1998).

Components of Emergent Literacy

The three key domains of emergent literacy skills that are foretelling of later reading ability include phonological awareness, print knowledge, and oral language (Lonigan, 2006;

Massetti, 2009; Wilson & Lonigan, 2009). Phonological awareness is arguably the most predictive of later reading achievement. It refers to "children's developing sensitivity to the sound structure of his or her language (e.g., knowing that words are made up of smaller sounds like syllables or phonemes) and the ability to use that information in cognitive processes like memory" (Lonigan, 2006, p. 98). Moreover, children are able to distinguish and influence the sounds of spoken language, regardless of meaning (Whitehurst & Lonigan, 2009). Print knowledge refers to children's development of the conventions and rules of books and print. For instance, children have a sound understanding of the alphabet (in terms of each letter name and letter sound) as well as understanding directionality of print (Lonigan, 2006; Massetti, 2009; Whitehurst & Lonigan, 2009). Research has found that knowledge of letter names prior to formal schooling (e.g., kindergarten) is a predictor of later reading ability in school (Whitehurst & Lonigan, 2009). Oral language refers to a "child's vocabulary as well as his or her ability to use those words to understand and convey meaning (i.e., syntactic and narrative skills" (Lonigan, 2006, p. 98). In comparison to their same-aged peers, children who have larger vocabularies are more likely to become more competent readers than children who have smaller vocabularies.

Research on children's acquisition of emergent literacy skills has found that there is a sizable proportion of children who enter kindergarten with "substantial oral language skills, [significant] knowledge [concerning] print and the alphabet, and well-developed phonological processing skills" (Lonigan, 2006, p. 98). These children are likely to become proficient readers when provided with effective literacy instruction. Alternatively, children who begin kindergarten with poor emergent literacy skills are less likely to benefit from the same type of literacy instruction, and will require additional assistance in attaining the basic emergent literacy skills first. Ultimately, research has continuously emphasized the developmental continuum associated

with emergent literacy, where the acquisition of emergent literacy skills in preschool leads to later literacy achievement. This developmental continuum highlights the importance of identifying children who are at-risk for reading difficulties before being exposed to formal school instruction and prior to the development of a reading disability (Lonigan, 2006).

Vulnerable Children

There are a number of reasons as to why children are considered to be at-risk or vulnerable. For the purpose of this paper, children who are classified as "at-risk" encompasses children who are susceptible for later reading difficulties as a result of developing the necessary emergent literacy skills for becoming a competent reader at a slower pace than their same-aged peers. While there are a variety of reasons as to why children can be considered vulnerable, but for the population of the present study, children who are considered vulnerable include those children who are from low socioeconomic families and are consequently, disadvantaged in the realm of academic achievement.

Massetti (2009) argues that "socioeconomic status is one of the strongest predictors of performance differences in children at the beginning of the first grade" (p. 556). Moreover, children from low socioeconomic households are already at a noticeable disadvantage at the onset of school with regards to literacy skills than their grade-level peers (Burkham, Ready, Lee, & LeGerfo, 2004). Specifically, these children have difficulties in their language ability, phonological sensitivity, and knowledge of print and its conventions. Research has found that these disadvantages exist prior to children's attendance in the formal school system, where these children are often not exposed to the basic emergent literacy skills (including phonological awareness and letter knowledge) required to become competent readers and consequently, begin school lagging behind their same-aged peers (Whitehurst & Lonigan, 1998). Additionally,

children from low socioeconomic families are often not exposed to activities that encourage or facilitate the development of literacy in the home environment (Massetti, 2009).

Children's attainment of emergent literacy skills is strongly arbitrated by their exposure to formal and informal experiences with language and literacy in their home environment (Justice et al., 2003). Research has found that children with limited exposure to written language (such as shared storybook reading between the child and his or her parent) experience more problems when acquiring emergent literacy skills than their peers who are more frequently exposed to such activities. Alexander, Entwisle, and Steffel Olson (2007b) believed that "most children of privilege [with regards to socioeconomic status] are privileged in all spheres of life: wealthy families usually live in good neighbourhoods and send their children to good schools. [While] the poor and nearly poor tend to live in distressed communities and attend resource-poor schools" (p. 13).

Research has indicated that families play a significant role in children's achievement patterns (Cooper et al., 2000). The production of knowledge and learning is a continuous process where children are continuously learning within the school context and within the home environment (Kerry & Davies, 1998). Arguably, a great deal of the school curriculum involves learning at home, where primary caregivers are required to work one-on-one with their children on tasks such as letter and number skills as well as literacy skills (Alexander et al., 2007b; Whitehurst & Lonigan, 1998). It has been found that primary caregivers who are from middle to high socioeconomic backgrounds report doing well in school themselves, and accordingly, were more likely to have the necessary tools to help their children to succeed academically (Young, 2000). These individuals have an understanding of the skills and behaviours that are required to succeed, and as a result, they exemplify them in their family life and are consistently

encouraging children to follow their lead. This is not to say that primary caregivers from low socioeconomic backgrounds do not want their children to succeed academically, but they often had their own struggles in school and may have suffered from low literacy levels themselves. This contributes to these individuals having a lack of means necessary to provide children with enriching experiences so they can succeed, academically (Alexander et al., 2007; Whitehurst & Lonigan, 1998). As repeatedly discussed throughout research, the socioeconomic backgrounds families come from, tend to be continued and maintained for generations (Hannon, 2000). For example, families from low socioeconomic backgrounds often experience a cycle of underachievement, which is continually perpetuated throughout generations, and this cycle becomes extremely difficult to break as these families often do not have the means necessary to succeed (Alexander, Entwisle, & Olson, 2007a; Hannon, 2000).

Early Identification and Support

Within the past three decades, there has been a significant increase in research and knowledge concerning the origins of children's literacy success and failures during the early years in elementary school (Lonigan, 2006). Many longitudinal studies have indicated that children who demonstrated having difficulties in reading at the end of the first grade, continued to illustrate below-average literacy skills for the duration of elementary school (Trogesen, 2002).

The Matthew Effect

The Matthew Effect, adopted by Keith Stanovich, a psychologist, proposes that early success in acquiring literacy skills frequently contributes to later success in reading as a child progresses in school, while failing to learn to read before the third or fourth year of school may be indicative of life-long difficulties in learning new skills (Adams, 1990; Lonigan, 2006). This is in consequence of children, who fall behind in reading at an early age, being more likely to

read less frequently, which increases the gap between them and their same-aged peers. This is better understood by acknowledging that during the preschool and kindergarten years, children *learn to read*, and by grade three, children *read to learn* (McNamara, Scissons, & Simonot, 2004). The concept of *reading to learn* is significant to understand the lifelong struggles a child will face if he or she is unable to attain the basic literacy skills that are required to become a successful reader. For example, a child who has difficulty reading at a young age and consequently does not enjoy reading, is more likely to experience difficulty in learning most other subjects. Subsequently, children such as this, do not gain an expansive vocabulary, and are likely to have poor background knowledge, limited phonological processing skills, and meagre print knowledge. In short, the word-rich get richer, while the word-poor get poorer (Adams, 1990; Lonigan, 2006; Carter et al., 2009).

The Importance of Effective Programs for Preventing Later Reading Difficulties

Effective programs for children at-risk for reading difficulties are necessary at all education levels; starting from preschool and continuing through to high school. Prevention and early intervention programs starting from preschool are crucial to children's later success as research has indicated (Ross et al., 1995). Similarly, early identification of children who are at-risk for reading difficulties, especially for those children who are disadvantaged as a result of coming from low socioeconomic backgrounds, is pertinent for academic success. It is argued that if children who are having difficulty with early literacy development are identified early, there is a very good chance that these children can be provided with additional support to achieve the essential skills required to become competent readers while preventing the development of any further difficulties. Torgesen (2002) illustrated the negative impact of delayed identification of children who are at-risk for reading difficulties. It was found that children who enter the first

grade demonstrating minimal to no knowledge of the phonological features of words are at an elevated risk for difficulties responding to early instruction (Torgesen, 2002). In order to improve children's later reading ability, early literacy programs should focus specifically on "phonemic awareness, phonics, fluency, vocabulary, and comprehension strategies" (Lonigan, 2006, p. 93). By focusing on these specific skills, children will be able to "accomplish the ultimate purpose of learning to read, [by being] able to understand, learn from, use and enjoy written language" (Lonigan, 2006, p. 93). If children are not able to attain these skills, it will have profound impact on children's later academic success. Ross and colleagues (1995) argued that the enhancement of literacy skills in the early years of elementary school should be the primary motivation for preventing school failure, particularly among disadvantaged children.

Literacy in the Family Context

Research on emergent literacy has significantly increased the knowledge of children's acquisition of literacy and literacy-based skills throughout the years. As Senechal and colleagues (2001) discussed, research has recognized various features of emergent literacy in terms of children's emergent literacy behaviours and the environments in which the development of these skills and behaviours are encouraged. Furthermore, research has also drawn connections between children's literacy environments and their attainment of literacy skills and behaviours. Through research, it has become evident that emergent literacy is not a unitary construct (Senechal et al., 2001). In an examination of the role the environment plays in the development of behaviours, it was found that a variety of activities influence children's behaviours. More specifically, it was found that different types of activities at home, in daycare settings, and in kindergarten classrooms all have a different impact on children's acquisition of oral, phonological, and written awareness (Senechal et al., 2001).

Recently, there has been an increase in awareness of the role the home literacy environment plays in the acquisition of children's later language and emergent literacy knowledge (Roberts et al., 2005; Carter et al., 2009; Senechal et al., 2001; Whitehurst & Lonigan, 1998). The child's environment, according to Roberts and colleagues (2005) as well as Whitehurst and Lonigan (1998), contains the experiences, attitudes, and materials related to literacy that a child is exposed to in the home. The role of home literacy practices in children's literacy development during the early years has significant implications for children's later literacy success. However, the correlation between home literacy practices during the early years and the development of children's emergent literacy skills is indistinguishable (Roberts et al., 2005).

There is widespread agreement that home environments that are rich in literacy and linguistic opportunities have a greater impact on the early development of the normative literacy tasks that are typical to children during the preschool and kindergarten years (Bus, van Ijzendoorn, & Pellegrini, 1995; Jordan et al., 2000; Scarborough & Dobrich, 1994). These literacy tasks include letter name and sound knowledge, phonological awareness, and an understanding of environmental print. The linguistic tasks include enhanced oral language skills, specifically relating to vocabulary and the development of skills pertaining to comprehension and communication (Jordan et al., 2000). Saracho (2007) affirmed that there is a significant relationship between parental reading and children's literacy learning. In a study conducted by Saracho (2007), it was indicated that children whose primary caregivers made literacy activities and materials available to them, illustrated having substantially higher scores than those children whose primary caregivers did not.

According to Neuman and colleagues (1998), the best way to conceptualize literacy learning is as a social practice, where learning takes place during the interactions of an individual with his or her family and friends. Fittingly, the basis of a family literacy program should be premised on "opportunity, support, and hope" (Neuman et al., 1998, p. 251). Hannon (2000) asserted that family literacy programs position equal importance on two generations (adults and children) and two individual goals, by capitalizing on the effects of early education for children while making the most of literacy instruction for the primary caregivers involved. Ultimately, this collaboration between children and their parent(s) creates a home environment that fosters learning (Hannon, 2000). It is important to note that the foundation of many family literacy programs is based on the findings that there are a sizable number of families in which primary caregivers demonstrate having literacy difficulties themselves. Consequently, it is posited that their children will also illustrate having or will likely develop low literacy attainment (Debruin-Pareck et al., 1997).

The motivation for children's literacy development in a family setting can be conceptualized into five distinct categories: the value placed on literacy by the parent; parental encouragement on reading achievement; availability of print materials; shared reading; and providing children with the opportunity to interact and discuss stories and other similar literacy activities with their primary caregivers (Saracho, 2002). Saracho (2002) believed that the best way to teach children the importance of print is through the repeated shared reading of stories and providing the child with the opportunity to ask questions related to the story. The value of interactions that children have with their primary caregivers is vital in children's literacy development, as reported by Saracho (2002). The purpose of family literacy is to promote the developmental capacity and educational opportunity for primary caregivers and children, alike.

Accordingly, the home environment can cherish the value of parent-child interactions while promoting the children's literacy development (Saracho, 2002).

Characteristics of Successful Family Literacy Programs

The goal of family literacy programs are to "enhance the lives of both parent and child: to improve skills, attitudes, values, and behaviours linked to reading. These programs try to break the cycle of low literacy, a cycle which limits lives" (Nickse, 1990, p. 4, as cited in Hannon, 2000). Auerback (1995) discussed the gap in research pertaining to family literacy, with regards to the varying perspectives on the role that primary caregivers play in such programs, the effectiveness of programs, measures of assessment (to check the progress of the program, periodically), and the program model itself. Currently, the most substantial gap in research is in the absence of the voices of the participants themselves in any discussion of program planning/development and in quality or effectiveness of the program. It is argued that this information is essential if the programs are intended to help meet the needs of families and their life goals (Hendrix, 1999; Neuman et al., 1998).

In an attempt to fill this gap in research, Neuman and colleagues (1998) conducted a study examining how the participants depicted their contribution in family literacy programs. For many of the participants, they reported feeling that the inclusion of families themselves into the programs was essential, as the families functioned as a central source of information aiding to the success of the program. Furthermore, the participants felt that family literacy was not a narrowly defined concept that focused its attention solely on fundamental reading skills, but rather, it was viewed by participants as a widespread concept; examining the role culture has in shaping the way people think, behave, and respond to their surroundings. Subsequently, the variability among family literacy programs is a reflection of the individual needs of the participants and the

community each program serves (Debruin-Parecki et al., 2007; Hendrix, 1999; Neuman et al., 1998; Saracho, 2002).

From the analysis of data from Neuman and colleagues (1998) study, six program features that the participants deemed to be the most important were disclosed. Firstly, the involvement of participants in the development of the program resulted in engaging the primary caregivers' interest, respect, and full contribution to the program. Secondly, the basis for each of the programs were premised on the use of family-based activities. These activities resulted in participants' full involvement in the program as the primary caregivers felt it provided them with the opportunity to work one-on-one with their children on literacy-based activities. Thirdly, the family literacy programs were frequently assessed to ensure progress; participants felt this was an important way to ensure that the program achieved what it set out to accomplish. Fourthly, many of the participants reported being provided with the opportunity to gain various social networks as a result of partaking in the program. Social networks were an important feature of the programs, as it was believed that literacy was learned within a social network. Hence, relationships and support groups were formed to aid primary caregivers in their discussion of important family issues and to provide each other a support network. Fifthly, many support services (such as transportation, child care for other siblings not involved in the programs, and access to meals) were incorporated into the program to attend to the various needs of the families involved. Lastly, programs helped the families make connection to additional services present in the community to make certain that the effects of the program were sustainable upon completion (Neuman et al., 1998).

In addition to the program features, a number of key principles emerged from the information that participants provided to Neuman and colleagues (1998). One of the strongest

findings from the study was that "family literacy is not something that can be 'done' to people" (Neuman et al., 1998, p. 250). It is important for programs to encourage the participation and contribution of participants to ensure that knowledge is not just simply being transmitted to them and to refrain from primary caregivers feeling the need to simply regurgitate the information they learned to their children. By providing participants an opportunity to facilitate the program, participants reported a greater sense of empowerment in terms of literacy learning and in the broader context, having a significant impact on the children and adults lives.

A second important finding from the study was in regards to family literacy programs not being premised on trying to change people and being founded on providing alternative ways for families to support and encourage literacy while presenting families with opportunities to improve their literacy skills (Hendrix, 1999; Neuman et al., 1998). A family literacy program should be concerned with bestowing various tools, measures, and activities to illustrate the use of literacy as a social practice, in multiple environments to illustrate its versatility. Moreover, programs should be constructed around what the participants have to bring to the program in terms of their past experiences. It is important for programs to acknowledge that while the participants (including both primary caregivers and children) are having difficulty in attaining basic literacy skills, it does not mean that the primary caregivers, specifically, do not have something else to bring to the program that will enhance its overall effectiveness.

The final and arguably most important feature that was stemmed from the primary caregivers' responses was that "family literacy learning is a matter of 'small wins'" (Neuman et al., 1998, p. 251). This view is in contrast to previously thought about program concepts, where one small win will provide the foundation for another small win and so on. These small wins are "indicators of improvements that produce visible results" (Neuman et al., 1998, p. 251). In other

words, literacy is best thought about in terms of baby steps; accomplishing one step at a time. This is an important concept for literacy programs to consider when developing programs in terms of what skills and measures are best to incorporate into the program to provide a basis for further literacy achievement. It is the intention of these key principles to provide a foundation for the development of future family literacy programs to ensure that they are effective in their ability to support families in learning and strengthening literacy practices.

Literacy in a Family Environment

The magnitude and worth of literacy interactions children have with their primary caregivers and exposure to print in their home environment prior to entering school have a significant impact on individual differences among children (Carter et al., 2009). Carter and colleagues (2009) argued that children's early literacy success in the home environment has the potential to outweigh the benefits of those in the school setting. In support of this claim, when children are exposed to naturally transpiring experiences with language and literacy activities in the home, they are likely to develop countless skills and concepts, attitudes, and behaviours that will positively impact their interest in and knowledge concerning literacy. Research has found that the context in which children learn emergent literacy skills has the greatest impact on children's motivation to learn. More specifically, it is the values and attitudes of primary caregivers and caregivers towards literacy that noticeably influence children's motivation to learn (Carter et al., 2009; Saracho, 2007). Primary caregivers play an indispensible role in promoting the acquisition of literacy in their children by creating opportunities to interact with oral and written language, while emphasizing emergent literacy development (Carter et al., 2009).

Scarborough and Dobrich (1998) asserted that joint caregiver-child reading is a highly beneficial practice that promotes the acquisition of literacy-related knowledge and subsequently,

leads the way for successful literacy achievement. It is argued that the family environment is the best setting to encourage natural and meaningful opportunities for entrenching early language and literacy experiences (Carter et al., 2009). There are four different strategies that primary caregivers and caregivers can elicit to encourage literacy development in their child: creating opportunities for their child to practice literacy skills and activities; modelling reading and language skills; interacting with their child in everyday routines; and providing recognition and positive reinforcement. These family strategies promote positive relationships between children and their families as well as providing children with literacy-focused opportunities. Ultimately, by increasing children's opportunities with reading and literacy, their attitudes towards reading and success with literacy and literacy skills will improve as a result (Carter et al., 2009).

Previous research has indicated that an increase in family involvement in a child's school and non-school learning, positively impact their child's academic achievements, particularly in terms of the attainment of literacy and literacy-based skills (Saracho, 2007). Moreover, studies have found that families engage in a comprehensive proportion of literacy experiences in the home. A child's family environment, as Saracho (2007) specified, can be used to concentrate on a family's particular beliefs and practices to contribute to the child's success in achievement gains on a variety of literacy skills that are valued in the school system. In general, a relationship between the role of positive parental support or encouragement and the literacy practices in the home environment, contribute considerably to children's positive effects on literacy learning. Accordingly, caregivers and primary caregivers play an indispensible function in "encouraging language and literacy development, [in addition to] reinforcing early literacy development" (Carter et al., 2009, p. 520).

Importance of Family Literacy

Saracho (2002) argued that the importance of parent-child interactions in children's literacy development has been well acknowledged for more than a decade in family literacy studies. Furthermore, research has illustrated the indispensible role parental involvement plays in children's acquisition of their emergent literacy skills. As a result of families providing children with access to literacy materials in the home, increasing parent-child interactions during literacy activities, and incorporating literacy materials in multiple situations and environments within the home, children are better equipped and supported to achieve the foundational emergent literacy skills (Jordan et al., 2009; Saracho, 2002).

In a study conducted by Saracho (2007) she provided additional support concerning the importance of families' involvement in children's emergent literacy learning. It was found that in children who demonstrated having advanced literacy skills, their primary caregivers provided a supportive environment for children's development of literacy through the availability of literacy materials and working with the child on literacy activities. Alternatively, those children who displayed having poor literacy skills were less likely to have primary caregivers who supported or encouraged literacy development within the home environment. Similarly a study by Stainthrop and Hughes (2000) investigated the literacy practices of the primary caregivers of children who reported being able to read and of those children who reported not being able to read. It was found that the home environment played an essential role in the child's ability to attain the basic literacy skills. Likewise, Hess, Holloway, Price, and Dickson (1982) proposed a correlation between children's ability to read and the amount of support the child receives from the parent in the home environment (in terms of the types of resources provided, the level of interactions, and the attitude primary caregivers have towards reading). Based on findings such

as this, researchers concluded that primary caregivers play a significant role in influencing their children's ability to attain literacy skills in terms of their personal attitude towards reading and how important they deem literacy to be. Moreover, researchers argued that it is the families who have the most influential role in children's literacy development; by simply providing children with a rich learning environment and by emphasizing the importance of academic success children are more likely to succeed in attaining higher literacy skills than those families who do not (Saracho, 2002).

In terms of participating in family literacy programs, Saracho (2002) stated that the families who participated in such programs were more likely to become aware of the importance of their children's schooling and academic future, and were increasingly more likely to work with their children on attaining the basic literacy skills as well as other skills children require to succeed in an educational setting. Additionally, in consequence of participating in such programs, primary caregivers were able to improve their own literacy while providing support, which promoted the literacy of their own child(ren) (Morrow et al., 1993). Ultimately, the impact of family literacy programs is not only on the children involved in the program, but rather, the impact is on the whole family involved. Hannon (2000) argued that "at its most basic level, the power of family literacy is the power of change" (p. 133). Family literacy programs provide disadvantaged families with the opportunity to reverse the cycle of underachievement and under education in their own lives. Through the education and knowledge provided in such programs, these families were able to make positive changes in their lives that will "change the destiny of their families for generations to come" (Hannon, 2000, p. 133).

Summer Learning Gap

Contained within current academic calendars across North America, the learning gap created by summer vacation creates a significant breach in the learning cycle where student achievement levels decrease over the course of the summer (Cooper et al., 2000). In a review of 39 studies, Cooper and colleagues (1996) specified that the summer learning shortfall equals at least one month loss of instruction as measured by grade level equivalents on standardized test scores, whereby children's test scores were at least one month lower when they returned to school in the fall than scores were when students left in the summer. Furthermore, the achievement gap has a more profound effect on children as they grow older, where there is a steady deterioration in knowledge and skills sustained during the summer months (Cooper et al., 1996; Kerry & Davies, 1998).

Alexander and colleagues (2007b) believed that in consequence of children being in school episodically, school plays a trivial or non-existent role in fostering children's learning during the summer months, contributing to the failure to remember a portion of the material they learned in the previous year. While some stakeholders believe that the benefits of a summer vacation overshadow the reversing effect on achievement, it is the impact of the summer learning gap on disadvantaged children that is most troublesome. In Cooper et al.'s (1996) review, it was found that children indicated having little or no achievement gains over the summer break, and on average, children experienced a loss of one to three months of learning during summer vacation. More specifically, the summer learning gap was found to enhance the inequality experienced by children from low socioeconomic backgrounds. Given the negative affect summer vacation has on children's achievement levels, it is important to employ effective learning programs for children to participate in during the summer months.

Effective Summer Family Literacy Programs for Children

The National Center for Summer Learning Loss (NCSLL) (2008) proposed that an effective summer learning program is one that successfully increases learning as well as supports positive youth development as a part of intensive approach to reduce summer learning loss. Characteristics of a successful summer learning program attains and preserves high-quality programming through strong leadership, meticulous preparation, extensive summer employee development, strategic corporations, continual evaluation, and put emphasis on sustainability. Moreover, a well-designed summer literacy program offers an opportunity to focus on reading with an intensive, interactive setting, where a child's specific needs can be supported and the best available teaching strategies can be implemented. Timmons (2008) suggested that successful summer learning programs must be flexible enough to respond to the individual needs of the participating families and children. Based on these characteristics of successful summer programs, the NCSLL emphasized only a few successful programs and provided reasons as to why programs are not successful for a variety of reasons.

One explanation is the need to formulate remedial literacy programs within a family context. The concept of family literacy is becoming increasingly significant as research has begun to expose the powerful effect that families can have on children's individual literacy achievement. For instance, literacy interventions are most powerful when they include family involvement (Timmons, 2008). As Desimone (1999) suggested, increases in test scores and overall grades, consistency in completion of homework, and reports of elevated feelings of self-worth are all associated with increased parental involvement. Nevertheless, Timmons (2008) also indicated that there are a variety of challenges facing program facilitators. In many cases, families were not authentic partners in the intervention process. By definition, authentic family

involvement refers to the caregivers or primary caregivers working alongside and in a partnership with the principle investigator, facilitators, and other participating caregivers in each intervention session. By including caregivers as authentic partners, they are encouraged to bring their personal experience to the learning environment, which will result in a greater transmission of knowledge between the program facilitators and the primary caregivers. A second explanation is that many published family literacy programs do not use academic research to inform the development and planning of the program. In addition, there is a general lack of published research in the field of family literacy. The most common form of family involvement in literacy programs currently is issued by a classroom teacher where primary caregivers are encouraged to participate in reading books with their child.

Summer Learning Loss and Vulnerable Children

Research has indicated that the learning loss created by summer vacation may be particularly detrimental for vulnerable learners including children who are disadvantaged as a result of requiring special educational needs, coming from low socioeconomic backgrounds, and learning English as a second language (Cooper et al., 1996; Verachetert, VanDamme, Onghena, & Ghesquiere, 2009). It is the reading or literacy-based skills that are most affected during the summer months (Cooper et al., 1996; Kim, 2006). For example, on standardized measures of reading, it was found that children from middle to high socioeconomic backgrounds recurrently demonstrate gains in reading achievement over the summer whereas disadvantaged children illustrated having significant losses (Cooper et al., 2000; Kim, 2006; Ross et al., 1995). Similarly Alexander and colleagues (2007b) as well as Katsiyannis (1991) found that without continuous instruction during the summer months, many children with learning disabilities descend further behind same-aged peers. Mraz and Rasinski (2007) reported that it is often the children who can

least afford to lose the literacy-based skills they have learned during the school year, and it is those children who end up falling farther behind during the summer months.

Research has indicated the need for educators and policy makers to become concerned with the learning gap that occurs between high socioeconomic and low socioeconomic children during the summer months (Mraz & Rasinski, 2007). Persistently, research indicated that the summer learning gap can be particularly troublesome for vulnerable children, and it is their literacy skills that is the most-frequent area of academic achievement that is most negatively impacted. In order for educators and policy makers to create programs to compensate for this learning gap, high quality intervention programs need to be created specifically for disadvantaged children (Alexander et al., 2007a). It is important for all children to be stimulated during the summer months to prevent this learning loss, however, in order for the gap between children from high socioeconomic families and low socioeconomic families to diminish, intervention programs need to specifically target the children who are considered to be the most at-risk for reading failure. As Alexander and colleagues (2007a) illustrated, if intervention programs are not targeted specifically for children from low-income families, the benefit among its participants will not be equal. The reason as to why this is the case, is that most intervention programs are designed with children from privileged families in mind. Therefore, children from high-income families will likely do well in such programs, while children from low income families will not benefit or may even experience a greater decline in their literacy skills.

Recurrently, the negative impact summer vacation has on children's literacy skills is evident, particularly for children who are deemed to be vulnerable. In order to reverse the negative effect summer vacation has on these vulnerable children, effective summer literacy programs are required to enhance their emergent literacy skills.

The Present Study

The present study was a continuation of a pilot study that was conducted during the summer of 2009, entitled *Closing the Summer Learning Gap for Vulnerable Learners.* This study furthered the pilot study by using the same intervention program and incorporating the use of a control group. The overall purpose of this study was to test the efficacy of a summer family literacy intervention program aimed at supporting young vulnerable learners and their families from a community located in Southwestern, Ontario. It was the intention of this study to identify an effective way for primary caregivers to enhance the emergent literacy skills of their children during the summer months, to better prepare them for kindergarten. The present study compares achievement data from an intervention program and control group at three points – prior to, immediately following, and four-months following the summer family literacy intervention program. The present study poses the following two related research questions:

Research Question 1: Can a summer family literacy program significantly decrease the learning loss experienced by children who are at-risk for reading difficulties during the summer months?

Research Question 2: Will the potential gains from the four-week literacy program be sustained long-term?

In comparison to the control group, it was hypothesized that the children who are exposed to the four-week intervention program will show an increase in literacy skills measured using the Test of Preschool Early Literacy (TOPEL). More specifically, in collaboration with the

literacy support provided to the participating families through the intervention program and caregivers support in the home environment, an increase in children's post-intervention scores will be observed (in comparison to their pre-intervention assessment scores). The importance of the development of children's emergent literacy skills has been repeatedly discussed throughout research, specifically where vulnerable children are concerned. The purpose of the summer family literacy intervention program implemented in this study was to provide support for four distinct emergent literacy skills and by reinforcing the skills throughout the duration of the program, it was speculated that the achievement gains in children's emergent literacy skills would be evident in the post-intervention assessment scores immediately following the completion of the program.

It was also hypothesized that the gains from the four-week literacy program would be sustained long-term (during the first term of the participating children's kindergarten school year). A primary feature of this research project was to include primary caregivers as authentic partners in a summer family literacy program, fabricated to scaffold their children's literacy-based needs. Although measures of direct family involvement were not collected within the scope of this study, it was theorized that sustained achievement levels may in part be due to family involvement in the program. This hypothesis was based on research addressing the importance of family in literacy programming. As it has been well documented, the role primary caregivers have in an intervention program are the most influential on a child's future literacy success (Timmons, 2008). In this study, the primary caregiver played a fundamental role in the intervention program through their participation in workshop activities prior to and following hands-on work with their child. The purpose of including the primary caregiver as an authentic partner in the program was to encourage a definitive shift in the family, whereby caregivers

would begin to implement literacy activities in their home on a daily basis. While the present study did not specifically measure how caregivers implemented the literacy strategies and skills learned from the program within the home, it was conjectured that the December post-intervention assessment scores would serve as a representation of the sustainability of the program. More specifically, if the results are sustained four months following the completion of the intervention program, the presumption that the family component may have played an integral role in the sustainability of the gains from the intervention program can be made.

CHAPTER 3

METHODOLOGY

Overview

The present study had two primary objectives. The first objective was to examine the efficacy of a four-week summer family literacy intervention program. More specifically, the purpose was to explore whether such a program would reverse the negative effect summer vacation has on learning loss. The second objective was to investigate the sustainability of the potential achievement gains related to one's participation in the summer family literacy program.

Participants

There were a total of thirty-six (36) participants in the study; there were nineteen (19) participants in the intervention group and seventeen (17) participants in the control group. All of the children who participated in the study were enrolled in junior kindergarten classrooms within the same school board from Southwestern Ontario, Canada. Each May as part of the regular curriculum, the participating school board screens all junior kindergarten children on a variety of observational measures including reading and literacy skills. In consequence of this screening, a number of children were identified as having literacy-based needs. As a partner in the present study, the school board agreed to refer identified children for participation in the summer family literacy program. After the initial school-based referral, children were then assessed by a registered Speech and Language Pathologist, who specializes in emergent literacy, to identify whether the individual child met specific eligibility requirements for participation in the study. The primary eligibility requirements included children's literacy scores being required to fall below the 25th percentile on the Test of Preschool Early Literacy, as well as indicating having low letter-identification knowledge. Children with low incident disabilities (such as Autism or

Intellectual Disabilities), and children with significant English as a Second Language difficulties were not included as participants. Once the children were determined to be eligible candidates for participation in the program, letters of invitation were sent home to the corresponding primary caregivers. A secondary eligibility requirement for the program obligated the participation of at least one primary caregiver per child. Thirty-six children and at least one of their caregivers were confirmed as participation in the program. The primary caregiver and child constitute the family involvement in the summer program.

Measures

Emergent Literacy Measures

Test of Preschool Early Literacy (TOPEL). A primary objective of the present study was to test the efficacy of a summer family literacy intervention program, with the intention of the program focusing on improving children's emergent literacy skills. As such, several measures of children's pre-literacy skills served as dependent variables; these skills were assessed with two subtests of the TOPEL (Lonigan, Wagner, Torgesen, & Rashotte, 2007). The TOPEL was chosen as the measure of children's emergent literacy as it was comprised of subtests that measure children's abilities in three areas, and since it is one of the few instruments that have been designed with the specific purpose of screening for emergent literacy skills. The TOPEL is designed to identify preschoolers aged three to five years who are at-risk for literacy difficulties, therefore, allowing for early intervention. Two subtests of the TOPEL were used in the present study: print knowledge and phonological awareness. In addition, measures to test children's knowledge of letter identification (letter names) and letter sound understanding were used as an assessment of emergent literacy.

Print Knowledge. This subtest has 36 items and measures a child's alphabet knowledge and early knowledge about written language conventions (e.g., rules) and form. In this subsection of the test, the child was asked to identify letters and written words, point to and name specific letters, identify letters associated with specific sounds, and say the sounds associated with specific letters.

Phonological Awareness. This subtest has 27 items and measures word elision and blending abilities. For this subsection of the test, the child was asked to do two separate tasks. For the first 12 items, the child was asked to say a word, and then say what is left of the word after dropping out specific sounds (elision). For the remaining 15 items, the child was asked to listen to separate sounds and to combine them together to form a word (blending).

Letter Identification. This subtest is a measure of alphabet knowledge, which is a component of written language awareness. For this subtest, the child was shown all 26 upper-case letters of the English alphabet in random order and was asked to identify the letter name. Responses were scored as being correct if the child accurately identified the letter name.

Letter Sound Understanding. This subtest is a measure of letter sound knowledge. For this subtest, the child was shown all 26 upper-case letters of the English alphabet in random order and was asked to identify what sound each letter made. Responses were scored as being correct if the child accurately identified the letter sound.

Procedure

Design

A pre-test—post-test comparison group design exploring a summer family literacy intervention program served as the framework for this study, where pre-intervention assessment scores were compared to post-intervention assessment scores and December post-intervention

assessment scores. This study was an experimental design, with a control group and an intervention group, to evaluate a new intervention relative to a previously used intervention or to no intervention at all (Gliner, Morgan, & Leech, 2009). Once the eligibility requirements were met, eligible children and their caregivers were invited to participate in the study. The pre-intervention, post-intervention, and December post-intervention assessment scores utilized in the study consisted of the emergent literacy measures described above (e.g., print knowledge, phonological awareness, letter names, and letter sounds). Following the completion of the pre-test assessment, participating children and their caregivers were randomly assigned into two groups: the control group and the intervention group. To ensure that the participating children were randomly assigned to the control group or the intervention group, the children were conveniently randomized; upon being referred to the study for participation in the intervention program, the children were screened by Speech and Language Pathologists and then were randomly assigned to the intervention group or the control group. The placement of children into each group took place alternatively, whereby one child would be placed into the intervention group, the next child would be placed into the control group, the next child would be placed into the intervention group, and so on.

The participants in the control group did not receive the intervention, but were tested at the same assessment points (prior to the intervention program, immediately following the intervention program, and in December, as a follow-up) as the intervention group. The assessments were conducted by Speech and Language Pathologists.

The participating children and their caregivers in the intervention group attended a four-week family literacy intervention program during the months of July and August, 2010. The program consisted of children participating with their caregiver(s) for two hours, twice a week

over the course of four weeks. During each session, caregivers and their children worked together and separately with literacy consultants and teachers. Following the completion of the four-week intervention program, children were assessed by Speech and Language Pathologists during the final session, providing post-intervention assessment data. Children were assessed again within a two-week period in November/December, 2010. To ensure consistency in assessments, the same Speech and Language Pathologists were used throughout the assessments. This second post-intervention assessment point was used to measure the sustainability of the potential gains achieved from the intervention program. These second post-intervention assessments were conducted by the same two Speech and Language Pathologists who conducted the initial assessments.

Intervention Program

The present study aimed to adopt and implement an empirically-based summer family literacy intervention program. As discussed by the National Center for Summer Learning Loss (NCSLL), a well-designed summer literacy program provides children with the opportunity to focus specifically on reading in an intensive and interactive setting, where a child's specific needs can be supported and the best teaching strategies can be utilized. Flexibility is an important feature of successful summer learning programs in order to respond to the individual needs and demands of the participating child and his or her caregiver(s). However, there are few programs that effectively address contextual factors, such as family involvement, reported in literature. Accordingly, a foundational feature to the present study included primary caregivers as authentic partners in a summer family literacy program designed to support the literacy needs of their vulnerable children. This foundational element led the research team to adopt the published study, *Learning Begins at Home (LBH): A Research-Based Family Literacy Program*

Curriculum (Doyle, Hipfner-Boucher, & Pelletier, 2008) as it had similar underlying foundations, in addition to incorporating the flexibility required to make the program adaptable to meet the needs of each participating child and his or her caregiver. It is well documented in research that the role primary caregivers play in an intervention program is the most influential on a child's success or failure (Timmons, 2008). Subsequently, a requirement for the summer family literacy intervention program included the participation of one child and one of his or her primary caregivers. The primary caregiver played a fundamental role in the intervention program, through their participation in workshop activities prior to and following hands on work with their child. The purpose of including the primary caregiver as an authentic partner in the program was to encourage a definitive shift in the family, whereby caregivers would begin to implement literacy activities in their home on a daily basis.

The *Learning Begins at Home* program consisted of an introductory session, eight two-hour instructional sessions, and one post-program session where post-test data was collected and the participating families were debriefed on the program. Each instructional session was broken down into three sections. In the first section (30 minutes), children and caregivers worked together while a teacher went over the objectives for the evening's lesson while reading a related story. In the second section (45 minutes), the caregivers and the children worked separately, where the children worked in small groups with a supervising teacher, while the caregivers worked with a Speech and Language Pathologist who specialized in emergent literacy. While the caregivers were participating in a workshop, the children worked closely with a teacher on specific skills related to each session (e.g., letter identification) and the teacher also put additional emphasis on skills the children were having difficulties with. During the caregivers' workshop with the Speech and Language Pathologist, caregivers were provided with information

on what is important to focus on with their child and were provided various activities and strategies that they could use at home to support the individual needs of their child in their literacy acquisition. In the third section (30 minutes), the caregivers worked with their children to practice and implement the strategies that they had learned during their emergent literacy workshop. Each session concluded with a story being read to the caregivers and children, collectively. At the end of each session, the children and caregivers were provided with complimentary books and materials (such as markers, magnet letters, etc.) to support them in implementing the literacy strategies and activities they learned from the session at home. As an incentive, the program and the related material were complimentary for all participants and each participating family received an evening meal each session.

Summer Family Literacy Program

Program Session Description

The intervention program utilized in this study was a socially constructed program, where it was founded on a collaboration of knowledge from various professionals. The following is a comprehensive summary of each session that was run during the summer family literacy program. Similar to the *Learning Begins at Home* program, each session was broken down into three sections. During the first section, all caregivers and children worked together while being introduced to the objectives of the session. During the second section, the children and caregivers worked separately, where children participated in three different activities and the caregivers were taught different strategies and activities for encouraging early literacy skill development. During the third section, the caregivers worked with their children on the strategies and activities they learned. At the end of each session, the participating families were provided with complimentary books and materials to support them in implementing the literacy strategies and

activities they learned from the session. The program and the materials provided were all complimentary to all participants and at the end of each session, the families were provided with supper.

SESSION 1 – INTRODUCTION AND DIALOGIC READING

Section One. All of the caregivers and children participated in the *Welcome* song and listened to the story book *Brown Bear, Brown Bear* being read aloud. The purpose of this story was to provide the caregivers with an example of a 'Book Crawl'. This Book Crawl focused on picture and written language support; information on the book cover was discussed and predictions about what the story would be about were made, the predictions were discussed, the pictures were looked at briefly, connections were made, and setting a reason for reading.

Section Two: Children. The children participated in a rotation of three activities; hat making, letter bingo, and ABC mat. At the hat making station, children were provided with pictures of the first letter of their name (target letter) and items that started with their target letter to decorate a hat. At the letter bingo station, each child played with a bingo card created with their specific target letters. At the ABC mat station, children tossed a bean bag onto an alphabet floor mat, with the purpose of aiming for their target letters. Upon completion of these three activities, the children sang the song *The Colour I See* and participated in a book crawl with the story, *Caps for Sale.*

Section Two: Caregivers. The caregivers were welcomed to the family literacy intervention program by the facilitator. During this session, the caregivers were provided with handouts outlining the structure of the sessions and highlighted the goals of the intervention program. The facilitator discussed what Early Reading Skills were and had a group discussion on what books the caregivers' children enjoyed. For the session, books were scattered on tables and

the caregivers were asked to discuss the following: what category (e.g., picture, poetry, alphabet, concept, etc.) does the book fall under? Are there any books that do not seem appropriate? What books do your children enjoy best? When you go to the library or bookstore, how do you choose books for your children? Upon completion of this exercise, the facilitator went through the various categories of books and provided the caregivers with a description of each type of book. The facilitator then discussed what to consider when choosing books for their young children (i.e., interest in topic, length of book, illustrations, language, etc.). The facilitator then set the focus of the session to be on dialogic reading, where the caregivers were asked: what is it your child likes best when you read to them? Do you remember what you liked best when being read to? The facilitator explained dialogic reading and caregivers were given a bookmark highlighting how to elicit discussion with their child over a story book (how to book crawl).

Component Three. Caregivers and children came back together and the activities the children participated in were described to the caregivers. As a group, the nursery rhyme, *Humpty Dumpty* was recited and they sang the song *If you are wearing something Blue.* The teacher who worked with the children provided another example of a book crawl when she read *Wide Mouthed Frog.* The session concluded with the children being provided with a take-home activity book and the group sang the *Goodbye* song.

SESSION 2 – THINKING ABOUT WORDS AND SOUNDS

Section One. The session began with all of the caregivers and children singing the *Welcome* song. A quick review of the children's take-home activity book from the previous session occurred. The group participated in reciting the nursery rhyme *Jack and Jill* and then the teacher who works with the children, participated in a book crawl with the storybook *Silly Sally.*

One of the activities associated with the storybook, required children to count the number of words in the sentences.

Section Two: Children. The children participated in a rotation of three different activity stations. At the first station, the children participated in the game *Tippin' Toadstool,* which was a segmenting/blending game. At the second station, children participated in the game *Flyswatter*, which was a compound word game, practicing children's blending skills. At the third station, the children played *What's the Rhyme Sorting House* game.

Section Two: Caregivers. The workshop began with the caregivers receiving a handout summarizing the different types of books and reviewed the book crawl of the storybook *Wide Mouthed Frog.* Once this was complete, the facilitator put up a sentence from the storybook *Brown Bear, Brown Bear* that was in Ukrainian, to demonstrate what children see prior to learning how to read. During this session, the emphasis was on the importance of emergent literacy skills such as listening to words and sounds, rhyming, segmenting, syllables, blending, and the recognition and sorting of initial letters. The importance of repetitive text in developing children's word sense was demonstrated to the caregivers through the storybook *Silly Sally.*

Section Three. All of the children and caregivers regrouped and the storybook *Willoughby Wallaby Woo* was read aloud. Caregivers and children play the game *I Spy* with a specific focus on words that begin with the letter /b/ and the *Animal Lotto Game*. The session concluded with children being provided with a take-home activity pertaining to the story *Silly Sally* and the *Goodbye* song was sung.

SESSION 3 – LETTER NAMES AND SOUNDS

Section One. All of the children and their caregivers sang the *Welcome Song* and they were taught the *If your name starts with the letter [ ]* song. The take-home activity for the story

Silly Sally, the children had from the previous session was discussed. As a group, the nursery rhyme *Star Light, Star Bright* was recited, and the storybook *Alphabet under Construction* was read aloud.

Section Two: Children. The three stations for children to participate in included the *Pop-Up Pirate Game*, which required children to work with letters, the *Fishing for Letters Game* (a floor activity), and the children were required to use the alphabet cookie cutters to make play dough letters.

Section Two: Caregivers. This session focused on the importance of learning letter names and sounds, highlighting the difference between the name of a letter and the sound of a letter. As a group, caregivers were required to discuss how different materials can help assist their child in learning the names and sounds of letters. Some of the materials included magnetic letters, sidewalk chalk, and cereal boxes. The facilitator also demonstrated a *Bingo* and *Concentration* game that they could play with their children to help them learn their letter names and sounds.

Section Three. All of the caregivers and children came back together and recited the nursery rhyme *Star Light, Star Bright*, sang the ABC song, and listened to the story *Chicka Chicka Boom Boom.* During the story, the children were required to the put the letters on the tree. Caregivers were then provided with the opportunity to work with their child on the strategies and activities they learned in the session. The children were divided into two groups, where one group went into the hallway with their caregivers and participated in a letter hunt while the other group played the game *Concentration* with their caregivers in the classroom. After a period of time, the groups switched and the children completed the second game. Once this was complete, all of the children and caregivers regrouped and sang the *Goodbye* song.

SESSION 4 – TALK TO YOUR CHILD

Section One. All of the children and their caregivers came together to sing the *Welcome* song and the facilitator introduced the topic for the session. The facilitator did a shared reading and changing of names. For example, I see Emma (then chant letter in the name: E-m-m-a). Following this, the group reviewed the nursery rhyme *Star Light, Star Bright* and recited *Diddle, Diddle, Dumpling* with actions. Next all of the caregivers and children listened to the storybook *Is your Mama a Llama?* and played a rhyming game (e.g., mat, cat, bat, hat, etc.).

Section Two: Children. The children participated in the three activities on rotation. The first activity was the *Hungry Creature Guessing Game.* To play this game, the puppet will only eat things that start with the appropriate target letters (e.g., the first letter of a child's name) and the children were provided with a bag of letters and words that start with their target letter. The second activity pertained to Flap Books, which focused on target letters and associated words that start with that same target letter. The third activity was an animal card game where children were required to identify the first and last letter on the card and to cheer the letters and clap the syllables.

Section Two: Caregivers. The theme of this workshop was oral language. The facilitator discussed children's oral language and made the connection to literacy, by providing suggestions for caregivers to help develop oral language. Throughout this workshop, the caregivers were provided with the opportunity to discuss and provide suggestions on how they believe language development can be facilitated. Some of the suggestions included using full sentences, asking questions, and making eye contact.

Section Three. All of the children and their caregivers came back together to finish the session. Together they recited *Diddle, Diddle, Dumpling* and were then divided into three

groups. In each group, the caregivers and children worked with a facilitator to plan a trip to the grocery store. Throughout this activity, the facilitator was able to demonstrate to the caregivers how to run a Think Aloud activity. To complete this activity, children were provided with pictures and words of food items. Together with the facilitator, the children made a grocery list with the items they were provided. As each child said an item to add to the list, he or she put the picture of the item in the refrigerator. Once this activity was complete, all of the caregivers and children regrouped and sang the *Goodbye* song.

SESSION 5: ENVIRONMENTAL PRINT

Section One. All of the caregivers and children gathered together to sing the *Welcome* song and were introduced to the topic of the session through the use of environmental print signs. With the facilitator, children participated in a cheer for the word "STOP"; children were given the letter S-T-O-P and were lead in a cheer for each letter. The letters were placed on the blackboard and as a group the meaning of the letters was discussed. The facilitator then held up a "STOP" sign to show the children an example of an environmental print sign. Following this, the children participated in a second cheer that pertained to the children's name. For example, the facilitator held up the letter D and sang *Letter D, Letter D who do you see? I see Diana, David, and Daniel looking at me.* The facilitator went through all of the first letters of the children's names using this technique. Next the children recited the nursery rhyme *Jack be Nimble Jack be Quick.* To continue the session on environmental print, the facilitator went through the book *City Signs* with the children and caregivers. Each child was assigned a letter and a corresponding page number in the book. As the facilitator went through the story, the child with the corresponding letter was asked to identify the letter and then to identify the letter in the story or on a sign. For

example, when the page that had the STOP sign, the children were asked, *What does STOP start with? Who has the letter S?*

Section Two: Children. Children rotated through three different activity stations. In the first station, children played the *Seal Game*, which was a letter identification game. The second activity was a road map puzzle, where children drove a truck with letters to the destination on the map. The third activity was a flap book where children identified various letters and signs.

Section Two: Caregivers. During this session, the facilitator discussed what environmental print was with the caregivers, provided examples from food packaging and signs within the community, and discussed the importance of environmental print. In small groups, caregivers were given time to discuss what different types of environmental print their children notice in the community and were encouraged to brainstorm different ways to encourage children to notice other environmental print signs.

Section Three. All of the children and caregivers regrouped for the remaining section. The facilitator reiterated the importance of caregivers being involved in their children's learning experiences. Together as a group, they recited the nursery rhyme *Jack be Nimble, Jack be Quick.* Similar to a previous session, children were divided into two groups. One of the groups played the *Concentration* game using signs, while the other group went into the hallway to identify letters and environmental print signs using pointers. After a short period of time, the groups switched activities. Once this was complete, the two groups came back together and sand the *Goodbye* song.

SESSION 6 – READ WITH YOUR CHILD

Section One. All of the caregivers and children joined together to sing the *Welcome* song and were introduced to the topic of the session. Following this, the children participated in the

Name chant that was used in a previous session. As a group, the nursery rhyme *5 Fat Peas* was recited with coordinating actions and the story *Growing Vegetable Soup* was read aloud. During this time, the facilitator made use of the story by demonstrating to the caregivers how to use dialogical reading (e.g., "What is your favourite soup?"), while modelling and discussing different concepts about print and discussing labelling words. Following this, the children participated in a book activity, where children were required to clap the syllables of vegetable names.

Section Two: Children. Three different activity stations were available for the children to rotate to. At the first station, children were handed out an enlarged cut-out of at least one of their target letters (their first initial) to stamp with a bingo dabber. Also, children were provided with different pictures of items that began with the same target letter and they were required to use to bingo dapper to identify these items. At the second station, children were provided with a personalized bingo card that had their target letters on it, as well as different fruits and vegetables that began with the same letter. At the third station, a fruit and vegetable alphabet mat was placed on the floor. Children were provided with a bag of fruits and vegetable labelled cards with their target letters. They were then required to play the *I Spy* game, as a way to sort the cards the children had. For example, "I spy a fruit that makes the /a/ sound and starts with the letter /a/" the answer would be an apple. The facilitator would clap her hands to the syllables and help the child place the card on the alphabet mat.

Section Two: Caregivers. This workshop was focused on why reading aloud is important. Throughout the time the caregivers had with the facilitator, they were taught proper book handling skills, the benefit of positive attitudes, how to encourage vocabulary development and narrative skills in their child, and were taught the importance of allowing children to make

predictions of a story. In small groups, caregivers were provided with the opportunity to discuss various book reading techniques and routines. For example, caregivers were encouraged to reflect on whether anything discussed in the sessions was different than what they do at home, etc. Once the caregivers completed their discussions, the facilitator moved on to discuss effective reading practices. To provide an example of effective reading practices, the caregivers were walked through a book by the facilitator and the facilitator discussed what dialogic reading might resemble. Caregivers were provided with a handout on dialogic reading and were provided with tips on how to encourage a conversation to continue. At the end of the session, the caregivers were encouraged to choose a dialogic reading technique and try it out at home with their child.

Section Three. All of the caregivers and children regrouped. The facilitator led the group through reciting the nursery rhyme *5 Fat Peas*. Then the children were divided into two groups. Each group were required to complete the two activities; for the first activity, the caregivers and children read a procedural text and were required to follow the direction to plant a bean seed. For the second activity, children were to play the card game *Go Fish* with letter and picture cards that began with their target letters. Once these activities were complete, all of the caregivers and children joined back together where the facilitator reinforced the skills learned from the session and the *Goodbye* song was sang.

SESSION 7: STORYTELLING

Section One. All of the caregivers and children participated in singing the *Welcome* song and were introduced to the topic of the session. The facilitator played the *Name Game* going through each child's name. "Chickety, chackety, choo, a chick flew over you. Chickety, chackety chee, a chick flew over me. Chickety, chackety, choo, a chick flew over *child's name*". Once all of the children's names were sang, the group recited the nursery rhyme *The Elephant* with

corresponding actions. The facilitator then read the storybook *Little Red Riding Hood*, where examples of dialogical reading were modelled, concepts about print were identified, and pictures were used to tell the story, while including the children in the process of storytelling. Once the story was complete, the children participated in a book activity where children were asked to draw their favourite part of the story. In addition, they were asked to label the items in their picture and to write a simple sentence using "bubble gum writing". Bubble-gum writing refers to stretching words out, putting extra emphasis on the initial sounds of words.

Section Two: Children. Children were provided with three different activities to complete regarding the storybook *Little Red Riding Hood.* The first activity was using the *Fly Swatter* game, where the children fed the letters to the wolf. This activity reinforces the use of target letters and sounds. The second activity required children to make target letters with round stickers to reinforce the sounds of pictures included at the bottom of the page. The third activity encouraged children to draw and orally discuss what their favourite part of the storybook was.

Section Two: Caregivers. The purpose of the workshop was to encourage caregivers that they can promote literacy in their everyday life. The facilitator led a discussion on how caregivers could use prompts to encourage discussion with their child about everyday activities or special events. Caregivers were then provided with the opportunity to discuss their experiences with practicing the use of a dialogic reading strategy while reading with their child (making a connection to a previous session).

Section Three. All of the caregivers and children regrouped and recited the nursery rhyme *The Elephant.* Following this, the children participated in two activities with their caregiver. For the first activity, caregivers and their children were required to make puppets for the story *Little Red Riding Hood* and then the children were asked to reiterate what happened in

the story, orally. For the second activity, the children used the pictures they created to write about their favourite part of the story using bubble-gum writing (which was previously modelled in the beginning of the session). Once the children completed the activities with their caregivers, everyone came back together. The skills learned from the session were reinforced and the *Goodbye* song was sang by all of the children and caregivers.

SESSION 8: PRINT KNOWLEDGE/WRITING

Section One. All of the caregivers and children joined together and sang the *Welcome* song, and the topic for the session was introduced. To begin the session, the children sang the song *Going to the Zoo*, which incorporates the children's names into the song while reinforcing letter sounds. Once the song was completed, the nursery rhyme *Little Boy Blue* was recited. The facilitator then led the children through an activity working with different words that rhyme with zoo. Children were assigned a letter to substitute the 'z' in 'zoo' to make a word that rhymes. As each child replaced the 'z' with their assigned letter, the facilitator as the children if it was a real word or a silly word. To finish this section, the storybook *Dear Zoo* was read to the children and caregivers.

Section Two: Children. The children were provided with three new activities to rotate through during their time with the teacher. The first activity entitled *Tumbling Monkeys and Zoo Animals* reinforced segmenting and blending skills. The second activity entitled *Deliver Letters* required children to find pre-cut letters of their name, put them into an envelope, and deliver it to the mail box. This activity reinforced children's letter identification skills. The third activity involved children gluing different animals in their zoo book and writing the animal's name beside it.

Section Two: Caregivers. During this session, the caregivers were asked to name a book they selected at the library and discuss why they thought it was a good choice for teaching children about the sounds of language. In small groups and in a large group, the facilitator led brainstorming discussions on the development of writing (from continuous scribble to discrete scribble to random letters, etc.). The facilitator emphasized the importance of children being taught how to write properly and provided different suggestions for developing the necessary muscles for writing as well as suggested helpful activities the caregivers can do with their children.

Section Three. All of the caregivers and children joined back together for the last time. The facilitator reiterated the importance of caregivers being involved in their child's learning. As a group, they recited the nursery rhyme *Little Boy Blue.* The children were then divided into two groups. The first group of children participated in a zoo picture activity where they glued three pictures of zoo animals on a page and wrote a letter to their Mom/Dad about going to the zoo. The second group of children participated in a game similar to *What time is it Mr. Wolf?* but instead was *What time is it Mr. Lion?* For the purpose of the game, the children were required to identify the letters the lion held up. As each of the letters were held up, a letter was spelled. Once each group completed their activity, they switched with the other group and completed the other activity. Once the activities were complete, all of the children and their caregivers regrouped and sang the *Goodbye* song once more.

Data Analysis

The data was collected at three different time periods: prior to the intervention taking place, immediately following the intervention program, and four months after the intervention program will be completed. The data collected prior to the intervention program, was collected

from the TOPEL assessments implemented by the two emergent literacy coaches from Speech Services Niagara. The post-intervention assessments took place immediately following the completion of the intervention program with all of the child-participants. The purpose for the immediate assessment was to ensure that the intervention itself was being assessed rather than a mediator that could have happened during the time between the completion of the program and the assessments. The pre-intervention assessments and post-intervention assessments for the program were four weeks apart given the length of the intervention. In December (four months following the completion of the programs) a follow-up assessment took place, where the Speech and Language Pathologists re-tested the child-participants from both groups by conducting a second post-intervention assessment using the TOPEL. The purpose of the December post-intervention assessment was to assess the sustainability of the literacy gains associated with the summer family literacy program.

A repeated measure analysis of covariance (ANCOVA) was conducted. The dependent measures included Print Knowledge, Phonological Awareness, Letter Identification, and Letter Sound Understanding. The covariates factored into the ANCOVA were age, gender, and pre-intervention assessment scores. The covariates will be discussed in greater detail in the following section. An ANCOVA was chosen as the statistical method to analyze the present study's data because it "[imparts] a powerful examination of the [relationship between the independent and dependent variable] by minimizing error variance (Tabachnick & Fidell, 1996, p. 22). Furthermore, "the stronger the relationship between the dependent variable and the covariates, the greater the power of ANCOVA over ANOVA" (Tabachnick & Fidell, 1996, p. 22).

Covariates

The main objective of this study was to measure the efficacy of a summer family literacy intervention program aimed at supporting young vulnerable learners and their families. More specifically, the primary goal was to find an effective way to assist young children with the basic literacy skills during the summer months. As such, it was essential to control for potential confounding variables that could influence the findings of the study. Consequently, three variables were identified to be used as covariates in all analyses: age, gender, and pre-intervention assessment scores.

Age. Children's ages in months were measured at the beginning of the study, during the time of pre-testing. As previously stated, McNamara, Scissons, and Simonot (2004) indicated that a child's age (i.e., 4 years and 9 months compared to five years and 1 month) indicates a significant difference in their literacy skills and therefore, it is necessary to control for children's ages on the basis of months for an accurate understanding of children's literacy skills.

Gender. Children's gender (male/female) is included as a covariate to statistically control for gender differences in children's literacy scores. As mentioned by McNamara et al. (2004), males and females differ in their reading achievement, and more often than not, males are found to have more difficulty reading and with literacy-based skills than females.

Pre-Intervention Assessment Scores. Children's pre-intervention assessment scores are included as a covariate to statistically control for mean score differences in children's literacy scores. Children were assessed by Speech and Language Pathologists, using the Test of Preschool Early Literacy (TOPEL). The children were assessed one month prior to completing their junior kindergarten school year. By using the pre-intervention assessment scores as a

covariate, we are creating a baseline for the children's post-intervention and December post-intervention scores.

CHAPTER 4

RESULTS

This chapter reports the results of the analyses used to address the research questions in this study. This study's sample consisted of 36 four-year-old junior kindergarten children, where 19 children participated in the intervention program while 17 children participated in the control group. To measure the efficacy of the summer family literacy intervention program, four measures were used; TOPEL Print Knowledge, TOPEL Phonological Awareness, Letter Identification, and Letter Sound Understanding. Each of these act as a dependent measure in the analyses within this section. There were three assessment points for children participating in this study. The first set of assessments (pre-intervention) were completed prior to the program commencing in June, 2010. The second set of assessments (post-intervention) took place immediately following the completion of the program in August, 2010. The third set of assessments (December post-intervention) were completed over a two-week period in November – December, 2010 in the school year following the program. Means and standard deviations for both groups for all dependent measures across assessment points are illustrated in Table 1.

Table 1.

Pre-, Post-, and December Post-Intervention Assessment: Means and Standard Deviations.

Measure	Program	Pre-Intervention		Post-Intervention		December Post-Intervention	
		M	*SD*	*M*	*SD*	*M*	*SD*
Print Knowledge	**Intervention**	11.1	5.8	17.6	7.4	22.5	7.4
	Control	12.2	3.5	11.7	3.5	15.8	4.4
Phonological Awareness	**Intervention**	12.5	5.1	13.8	5.1	15.5	5.3
	Control	10.8	5.4	11.9	4.6	14.9	4.0
Letter Names	**Intervention**	6.5	4.2	10.5	5.6	13.8	5.8
	Control	8.3	3.7	7.5	3.4	10.6	3.8
Letter Sounds	**Intervention**	3.1	3.9	5.3	4.9	7.3	4.3
	Control	3.4	3.1	2.1	1.5	5.3	2.5

Preliminary Analyses

Prior to analyses, although children were randomly assigned to either the intervention or control group, it was important to measure any pre-intervention differences between groups across all dependent measures. To assess randomization, a between-group one-way analysis of variance was computed at the pre-intervention assessment point for each of the four dependent measures. Age and gender were entered as covariates for each analysis. For the TOPEL measure of Print Knowledge, the difference between the pre-intervention scores for the control group and the intervention group was not statistically significant, $F(1, 32) = .24$, $p = .629$, $\eta_p^2 = .01$, indicating that there was no difference between groups at the pre-intervention assessment point,

when age and gender are controlled for. A similar result was found for the TOPEL measure of Phonological Awareness, $F(1, 32) = .56, p = .460, \eta_p^2 = .02$, as well as for Letter Identification, $F(1, 32) = 1.58, p = .218, \eta_p^2 = .05$, and for Letter Sound Understanding, $F(1, 32) = .10, p = .757, \eta_p^2 = .00$. These findings indicated that there was no significant pre-intervention difference between group means for all dependent measures. At this time, the data was screened to test for normality assumptions; the normality assumptions were met and no outliers were found in the data.

A correlation analysis was then conducted in order to explore the presence of any meaningful relationships between the four dependent measures. This was an important analysis as researchers have found that phonological and print awareness skills do not develop independently from letter sounds awareness (Field, 2009; Gliner et al., 2009). Understanding the relationships between these variables will assist the interpretation of the results of the subsequent analyses. As indicated in Table 2, there was a significant positive correlation between Print Knowledge and Letter Identification (letter name) on pre-intervention scores ($r = .470, p < .01$). Similarly, Letter Sound Understanding was positively correlated with Phonological Awareness ($r = .365, p < .05$) and with Letter Identification ($r = .406, p < .05$) on pre-intervention scores. These significant correlations were consistent with previous research indicating that children develop these four skills in coordination with each other. For instance, when children were taught Print Knowledge skills, they were also taught Letter Identification skills at the same time. In consequence of the skills not being taught in isolation of the other skills, a correlation between the four dependent measures was expected. For the dependent measures indicating no significant correlation (reporting an r value close to 0), it could be concluded that there were no consistent relationship between the dependent measures for that specific measure. For example, for Print

Knowledge and Phonological Awareness (r = .080), as well as for Letter Identification and Group (r = .043), non-significant correlations were found. More specifically, a child who indicated having high Print Knowledge skills may have low, medium, or high scores on Phonological Awareness skills; therefore, it was difficult to predict a participant's scores on other dependent measures. Similarly, a child's scores on Letter Identification cannot be predicted by the group (r = .043) that the child is assigned to.

Table 2.

Correlations on Pre-Intervention Assessment

	1.	2.	3.	4.	5.
1. Pre Print Knowledge	-	-	-	-	-
2. Pre Phonological Awareness	.080	-	-	-	-
3. Pre Letter Name	.470**	.263	-	-	-
4. Pre Letter Sound	.185	.365*	.406*	-	-
5. Group	.119	-.160	.224	.043	-

Note. * Correlation is significant at the 0.05 level.
** Correlation is significant at the 0.01 level.

Research Question 1

The first research question of this thesis was to test the immediate effect of the four-week summer family literacy intervention program. In the presence of no significant difference between groups at the time of the pre-intervention assessment, a one-way ANCOVA was

computed between groups for all four post-intervention measures. To control for any effect of pre-intervention achievement group differences, pre-intervention scores were entered into each analysis as a covariate along with age and gender.

Print Knowledge. To recall, for the pre-intervention analysis, no statistically significant difference was found between groups for pre-intervention scores for Print Knowledge. However, a statistically significant difference was found between groups on post-intervention scores on Print Knowledge, $F(1, 31) = 18.05$, $p < .001$, $\eta_p^2 = .37$. Couching this result within a visual inspection of the means (Table 1), it was evident that children in the intervention group scored statistically significantly higher than the control group on post-intervention measure of Print Knowledge. For ease of interpretation, raw unadjusted mean scores of pre-intervention and post-intervention assessments for Print Knowledge are illustrated in Figure 1.

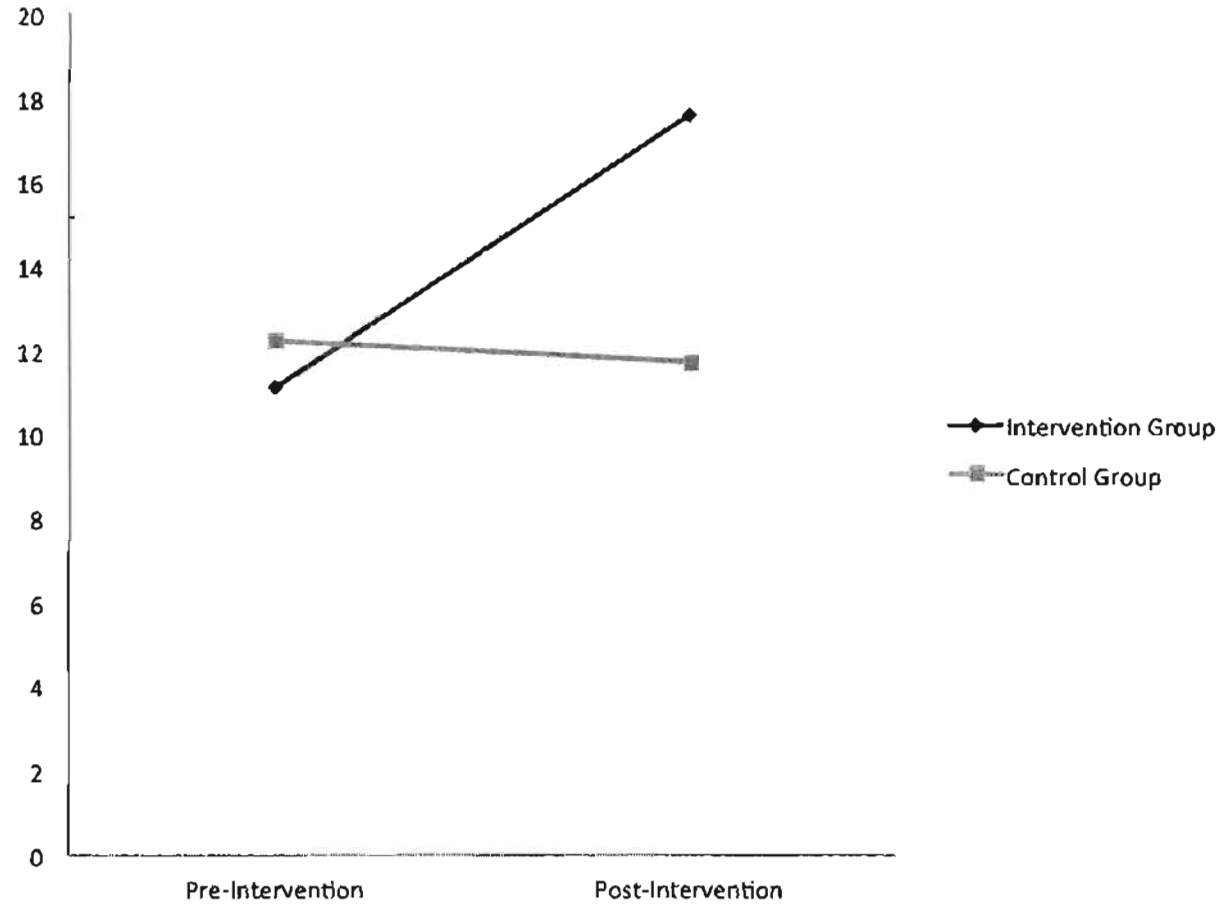

Figure 1. Achievement gains across pre-intervention and post-intervention assessment points for TOPEL Print Knowledge mean scores

Phonological Awareness. As previously discussed, for the pre-intervention analysis, no statistically significant difference was found between groups for pre-intervention scores for Phonological Awareness. Similarly, the difference between groups were not significant on post-intervention scores on Phonological Awareness, $F(1, 31) = .70, p = .410, \eta_p^2 = .02$. Formulating this result within a visual inspection of the means (Table 1), it was evident that children in the intervention group did not score significantly higher than the control group on post-intervention measure of Phonological Awareness. For ease of interpretation, raw unadjusted mean scores of pre-intervention and post-intervention assessments for Phonological Awareness are depicted in Figure 2.

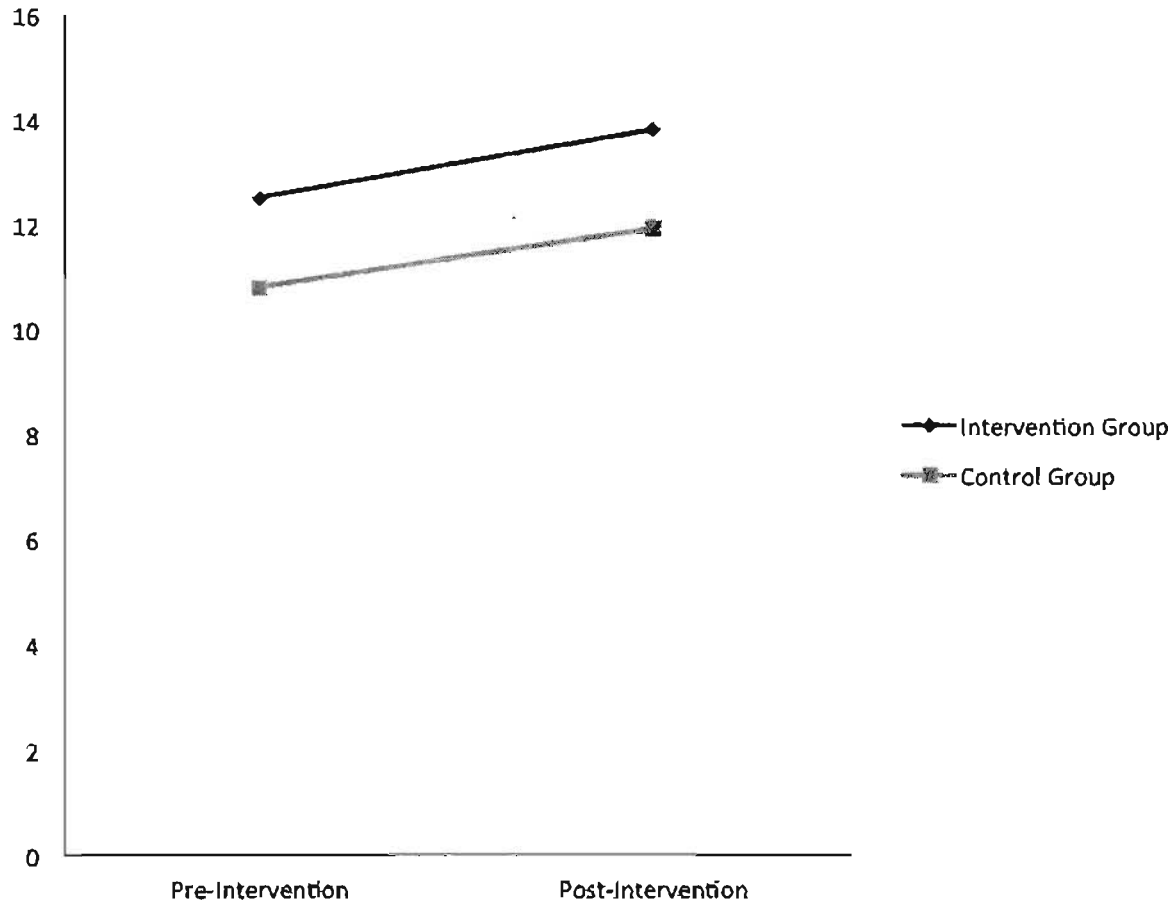

Figure 2. Achievement gains across pre-intervention and post-intervention assessment points for TOPEL Phonological Awareness mean scores

Letter Identification. In recollection, for the pre-intervention analysis, no statistically significant difference was determined between groups for pre-intervention scores for Letter Identification (Letter Names). However, a statistically significant difference was found between groups on post-intervention scores for Letter Identification, $F(1, 31) = 25.39, p < .001, \eta_p^2 = .45$. To express this result within a visual inspection of the means (Table 1), it was evident that children in the intervention group scored statistically significantly higher than the control group on post-intervention measure of Letter Identification. Refer to Figure 3 for this graphical representation of the raw unadjusted mean scores of the pre-intervention and post-intervention assessments for Letter Identification.

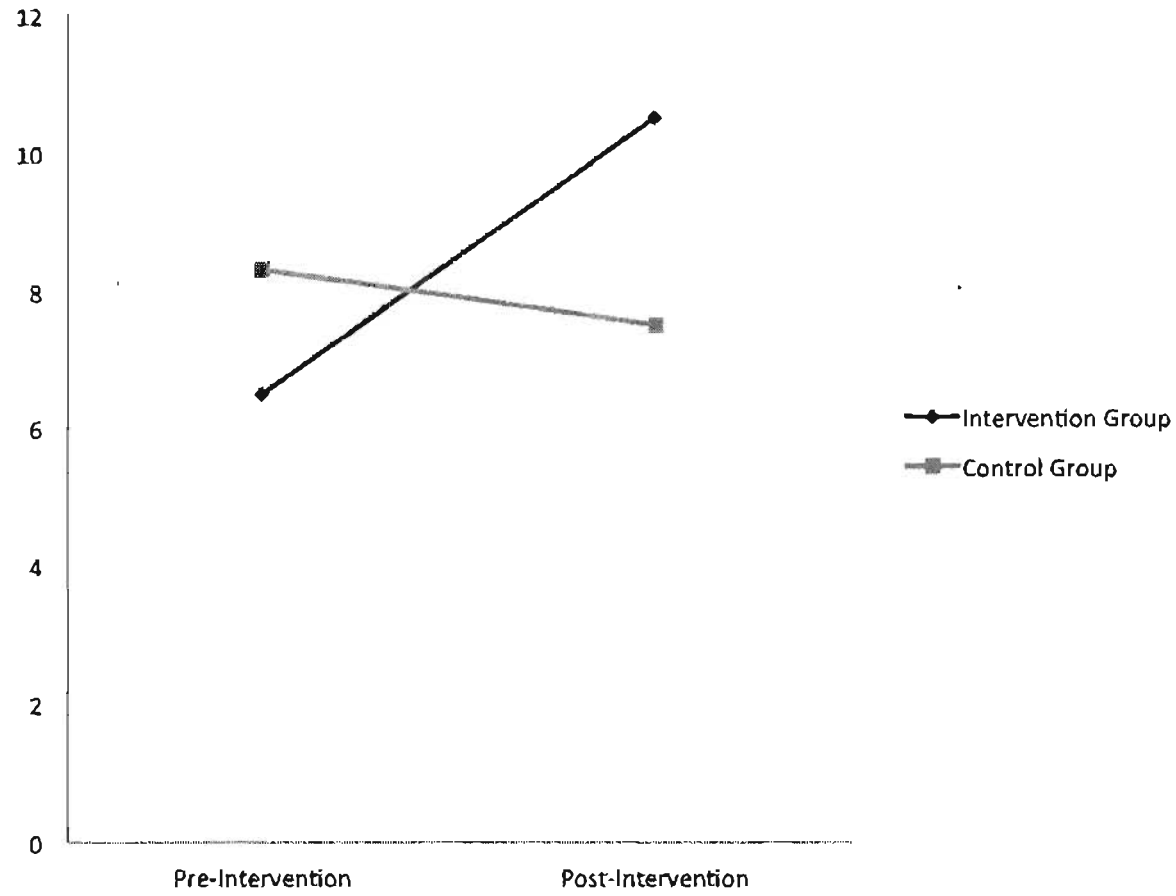

Figure 3. Achievement gains across pre-intervention and post-intervention assessment points for Letter Identification mean scores

Letter Sound Understanding. In reminiscence, for the pre-intervention analysis, no statistically significant difference was found between groups for pre-intervention scores for Letter Sound Understanding. However, a statistically significant difference was found between groups on post-intervention scores on Letter Sound Understanding, $F(1, 31) = 18.39$, $p < .001$, $\eta_p^2 = .37$. Articulating this result within a visual inspection of the means (Table 1), it was evident that children in the intervention group scored statistically significantly higher than the control group on post-intervention measure of Letter Sound Understanding. This finding is illustrated in Figure 4. For ease of interpretation, raw unadjusted mean scores of the pre-intervention and post-intervention assessment for Letter Sound Understanding are depicted. Interestingly, the children who are in the control group are actually performing worse compared to their own baseline performance. This is further discussed in the discussion section.

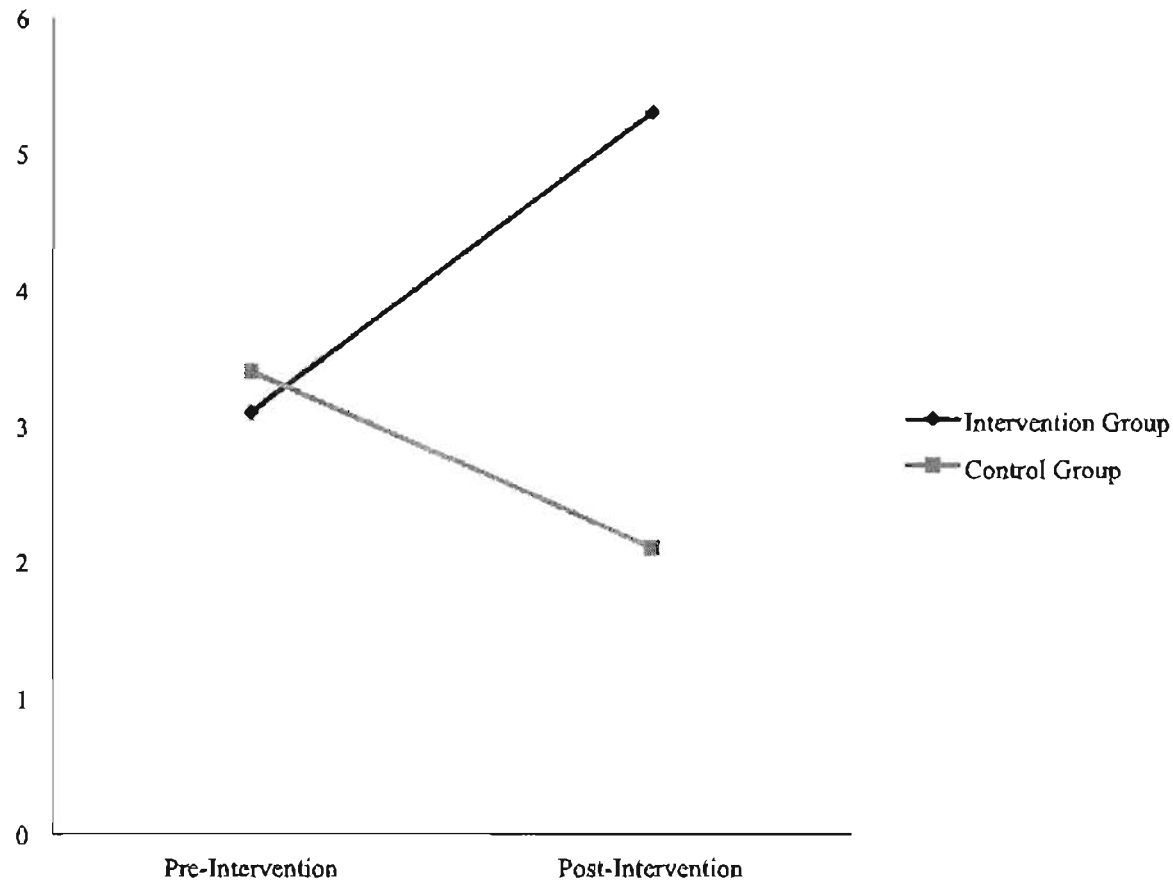

Figure 4. Achievement gains across pre-intervention and post-intervention assessment points for Letter Sound Understanding mean scores

Correlational Analysis of Post-Intervention Measures

To further explore the meaningful relationships among the dependent measures, correlational analyses were conducted on the post-intervention measures. Post-intervention correlations are illustrated in Table 3. In addition to computing total group correlations, individual group correlations were computed and illustrated in Table 4. As indicated in Table 4, Print Knowledge continued to illustrate being significantly positively correlated with all of the dependent measures, where Phonological Awareness ($r = .469, p < .05$), Letter Identification ($r = .722, p < .01$), and Letter Sound Understanding ($r = .633, p < .01$) were highly correlated on post-intervention scores for the intervention group only. In addition, Letter Sound Understanding was significantly positively correlated with Letter Identification ($r = .874, p < .01$) on post-intervention scores for the intervention group only. As indicated in Table 4, there are no significant correlations reported for any of the dependent variables in the control group. Therefore, there are no consistent associations reported between the four dependent measures for the control group. An important finding is that the intervention group's statistics are considerably higher than the control group's statistics. Consequently, when the participants were exposed to the intervention group, their scores were more highly correlated with the dependent measures than the participants who were not exposed to the intervention program.

Table 3.

Correlations on Post-Intervention Assessment

	1.	2.	3.	4.	5.
1. Group	-	-	-	-	-
2. Post Print Knowledge	-.454**	-	-	-	-
3. Post Phonological Awareness	-.197	.438**	-	-	-
4. Post Letter Name	-.318	.697**	.331*	-	-
5. Post Letter Sound	-.408*	.599**	.426*	.738**	-

Note. * Correlation is significant at the 0.05 level.

** Correlation is significant at the 0.01 level.

Table 4.

Correlations of Post-Intervention Assessment by Group

Group		1.	2.	3.	4.
Intervention	**1. Post Print Knowledge**	-	-	-	-
	2. Post Phonological Awareness	.469*	-	-	-
	3. Post Letter Name	.772**	.287	-	-
	4. Post Letter Sound	.633**	.423	.874**	-
Control	**1. Post Print Knowledge**	-	-	-	-
	2. Post Phonological Awareness	.274	-	-	-
	3. Post Letter Name	.204	.305	-	-
	4. Post Letter Sound	-.403	.419	.194	-

Note. * Correlation is significant at the 0.05 level.
** Correlation is significant at the 0.01 level.

Research Question 2

The second research question of this thesis was to measure the sustainability of the gains obtained from the summer family literacy program for each dependent measure. To answer this question, a between-group repeated measures analysis design was utilized. For each dependent measure, a Group (2) X Time (2) analysis of variance with repeated measures was conducted. Refer to Table 5 for the ANOVA statistics for each dependent measure.

Table 5.

Analysis of Variance with Repeated Measures for each Dependent Variable

	Post-Intervention				December Post-Intervention				Group X Time		
	Intervention		Control		Intervention		Control				
	M	SD	*M*	SD	*M*	SD	*M*	SD	*F*	*p*	η_p^2
Print Knowledge	17.6	7.4	11.7	3.5	22.5	7.4	15.8	4.4	.55	.464	.02
Phonological Awareness	13.8	5.1	11.9	4.6	15.5	5.3	14.9	4.0	.45	.508	.01
Letter Name	10.5	5.6	7.5	3.4	13.8	5.8	10.6	3.8	.24	.630	.01
Letter Sounds	5.3	4.9	2.1	1.5	7.3	4.3	5.3	2.5	1.22	.277	.04

Print Knowledge. For Print Knowledge, visual inspection of mean scores indicated that both groups showed a gain in mean scores between post-intervention and December post-intervention. The intervention group increased Print Knowledge scores from 17.6 (post-intervention) to 22.5 (December post-intervention) equating to a mean gain score of 4.9. The control group increased Print Knowledge scores from 11.7 (post-intervention) to 15.8 (December post-intervention) equating to a mean gain score of 4.1. A repeated measures analysis of variance was computed to measure whether the increases in mean gain scores were significantly different between the intervention and control groups (see Table 5). For Print Knowledge scores, the interaction between Group and Time was not statistically significant, $F(1, 31) = .55, p = .464$,

$\eta_p^2 = .02$, indicating that both the intervention and control group showed similar magnitudes of growth in Print Knowledge between post-invention and December post-intervention. A test of simple effects indicates that there remains a between-group difference in means scores for Print Knowledge, $F(1, 31) = 21.31, p < .001, \eta_p^2 = .41$. These results are illustrated in Figure 5. For ease of interpretation, raw unadjusted mean scores of the post-intervention and December post-intervention assessments for Print Knowledge are illustrated. It is important to note that this measure violates the homogeneity of variance assumption, as the test of homogeneity is rejected at $p < .01$. However, this is not problematic for two reasons. According to Tabachnick and Fidell (1996) the strength of ANOVA and the difference in sample sizes between the intervention and control group is not largely deviating, therefore it is safe to ignore this assumption.

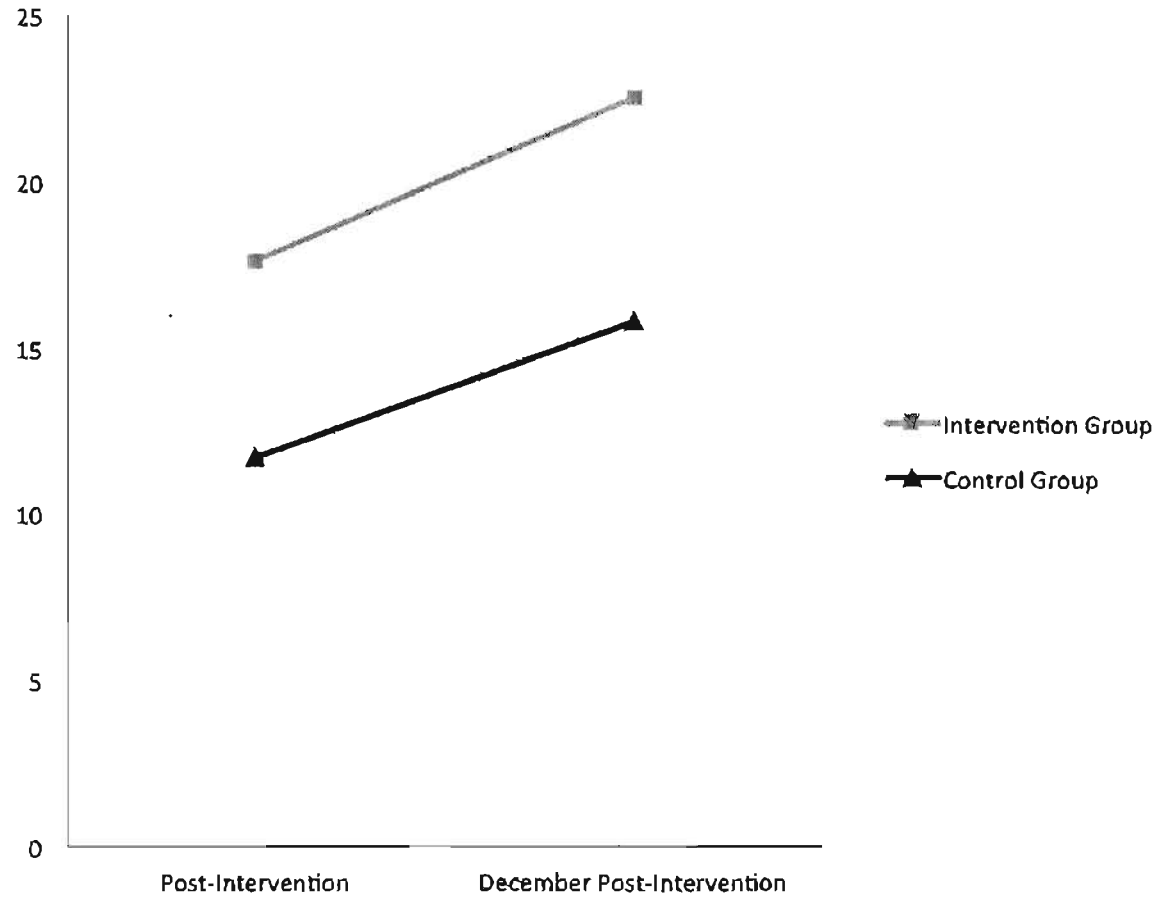

Figure 5. Achievement gains across post-intervention and December post-intervention assessment points for TOPEL Print Knowledge mean scores

Phonological Awareness. For Phonological Awareness, the visual illustration of mean scores indicated that both groups showed a gain in mean scores between post-intervention and December post-intervention. The intervention group increased Phonological Awareness scores from 13.8 (post-intervention) to 15.5 (December post-intervention) equating to a mean gain score of 1.7. The control group increased Phonological Awareness scores from 11.9 (post-intervention) to 14.9 (December post-intervention) equating to a mean score of 3.0. A repeated measures analysis of variance was computed to measure whether the increases in mean gain scores were significantly different between the intervention and control groups (refer to Table 5). For Phonological Awareness, the interaction between Group and Time was not statistically significant, $F(1, 31) = .45, p = .508, \eta_p^2 = .01$, indicating that both the intervention and control group illustrated similar degrees of growth in Phonological Awareness between post-intervention and December post-intervention. A test of simple effects indicated that there was no longer a between-group difference in mean scores for Phonological Awareness, $F(1, 31) = .24, p = .627, \eta_p^2 = .01$. These results are displayed in Figure 6. For ease of interpretation, raw unadjusted mean scores of the post-intervention and December post-intervention assessments for Phonological Awareness is utilized in Figure 6.

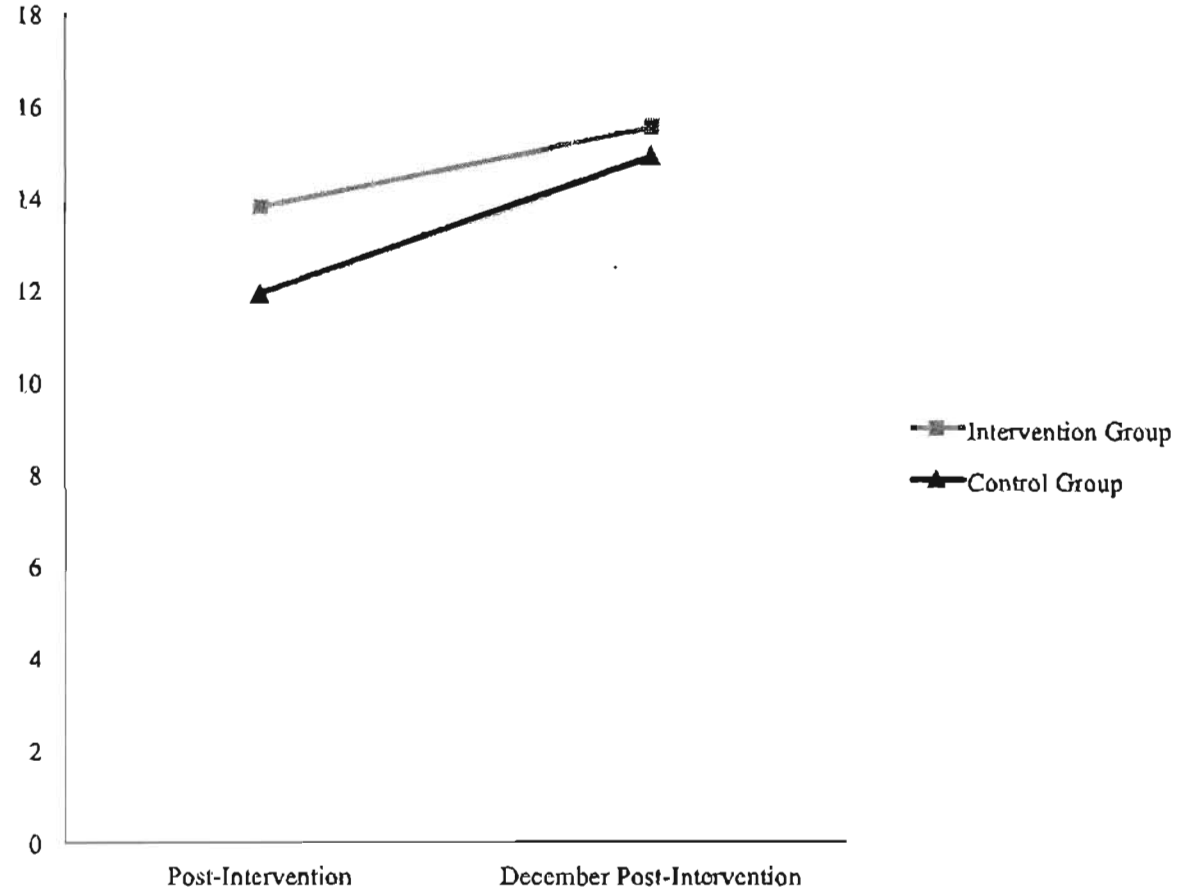

Figure 6. Achievement gains across post-intervention and December post-intervention assessment points for TOPEL Phonological Awareness mean scores

Letter Identification. For Letter Identification, a visual examination of mean scores indicated that both groups showed a gain in mean scores between post-intervention and December post-intervention. The intervention group increased Letter Identification scores from 10.5 (post-intervention) to 13.8 (December post-intervention) equating to a mean gain scores of 3.3. The control group increased Letter Identification scores from 7.5 (post-intervention) to 10.6 (December post-intervention) equating to a mean gain scores of 3.1. A repeated measures analysis of variance was computed to measure whether the increases in mean gain scores were significantly different between the intervention and control groups (see Table 5). For Letter Identification, the interaction between Group and Time was not statistically significant, $F(1, 31) = .24, p = .630, \eta_p^2 = .01$, indicating that both the intervention and control group displayed similar magnitudes of progress in Letter Identification between post-intervention and December post-intervention. A test of simple effects indicated that there remained a between-group difference in mean scores for Letter Identification, $F(1, 31) = 34.30, p < .001, \eta_p^2 = .53$. These results are presented in Figure 7. For ease of interpretation, raw unadjusted mean scores of the post-intervention and December post-intervention assessments for Letter Identification were applied in Figure 7.

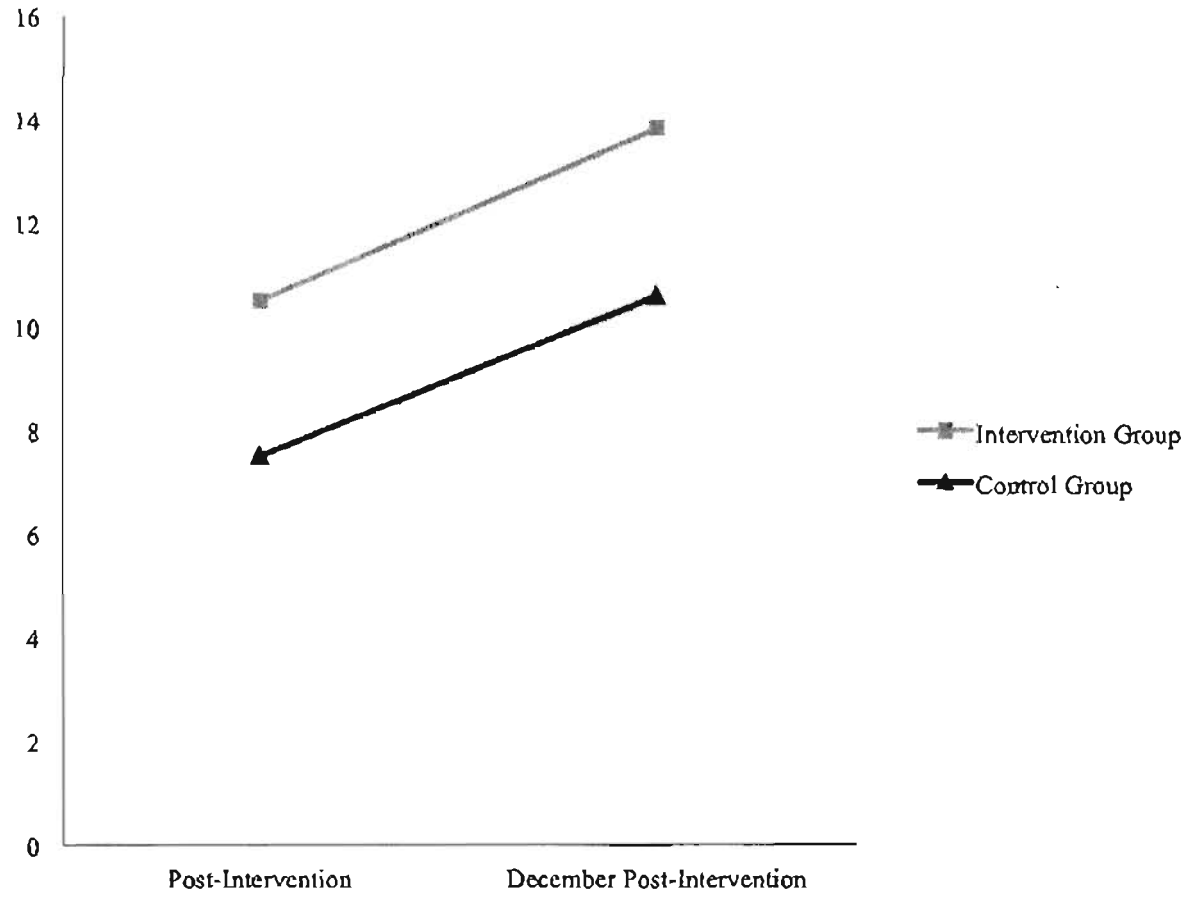

Figure 7. Achievement gains across post-intervention and December post-intervention assessment points for Letter Identification mean scores

Letter Sound Understanding. For Letter Sound Understanding, visual representation of means scores indicated that both groups showed a gain in mean scores between post-intervention and December post-intervention. The intervention group increased Letter Sound Understanding scores from 5.3 (post-intervention) to 7.3 (December post-intervention) equating to a mean gain score of 2.0. The control group increased Letter Sound Understanding scores from 2.1 (post-intervention) to 5.3 (December post-intervention) equating to a mean gain score of 3.2. A repeated measures analysis of variance was computed to measure whether the increases in mean gain scores were significantly different between the intervention and control groups (see Table 5). For Letter Sound Understanding, the interaction between Group and Time was not statistically significant, $F(1, 31) = 1.22, p = .277, \eta_p^2 = .04$, indicating that both the intervention and control group exhibited similar levels of progress in Letter Sound Understanding between post-intervention and December post-intervention. A test of simple effects indicates that there remains a between-group difference in mean scores for Letter Sound Understanding, $F(1, 31) = 12.25, p < .001, \eta_p^2 = .28$. These results, using raw unadjusted mean scores of the post-intervention and December Post-intervention assessments for Letter Sound Understanding are displayed in Figure 8. Similar to Print Knowledge, it is important to note, that the measure of Letter Sound Understanding is in violation of the homogeneity of variance assumption. However, like Print Knowledge, this violation of assumption is not problematic (Tabachnick & Fidell, 1996).

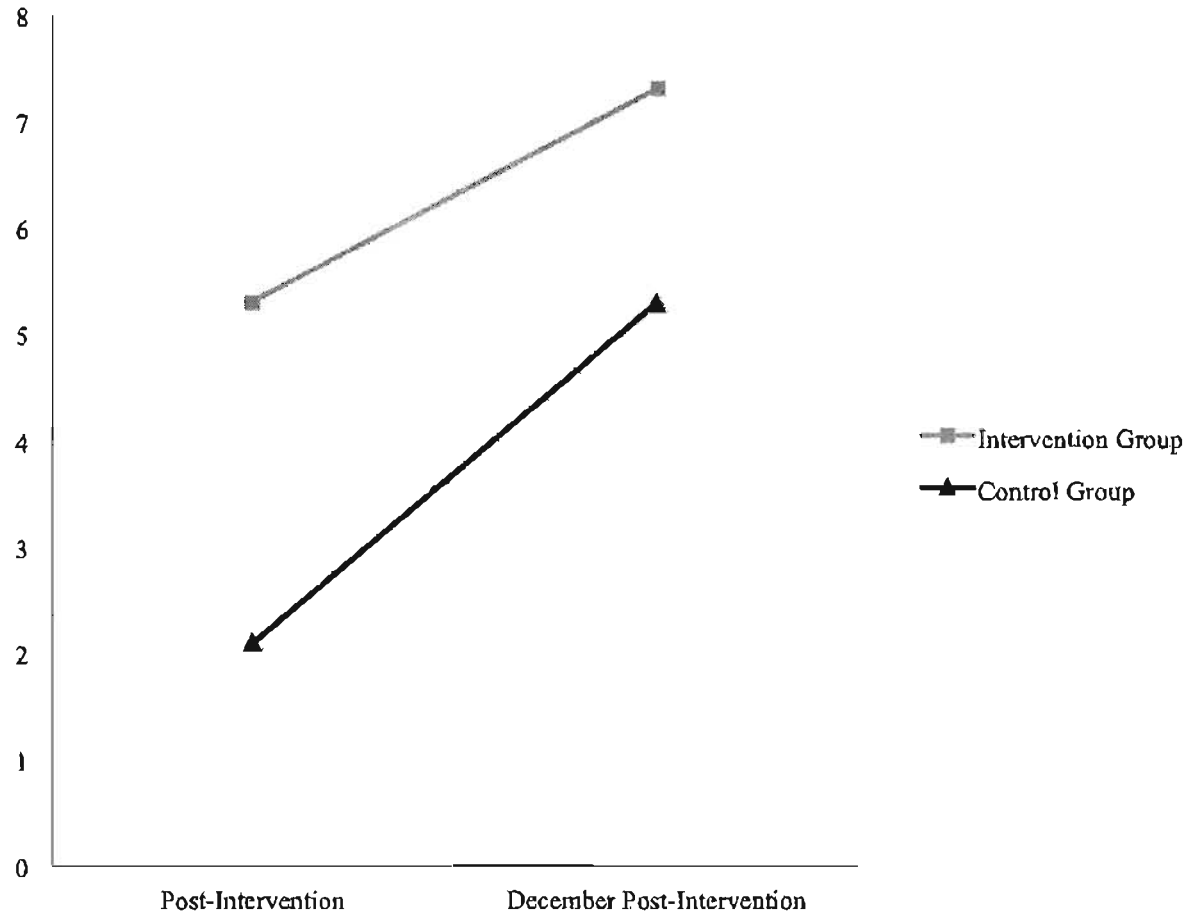

Figure 8. Achievement gains across post-intervention and December post-intervention assessment points for Letter Sound Understanding mean scores

Correlational Analysis of December Post-Intervention Measures

An additional significant finding relates to the correlational analyses of the December post-intervention measures. Individual group correlations for the December post-intervention measures were illustrated in Table 6. Findings from the correlational analyses differentiated by group are maintained in these analyses. Print Knowledge was found to be highly correlated with Phonological Awareness ($r = .455$), Letter Identification ($r = .906$, $p < .01$), and Letter Sound Understanding ($r = .872$, $p < .01$) for the intervention group. Contrarily, Print Knowledge was not found to be significantly correlated with any of the measures for the control group. Phonological Awareness was found to be significantly correlated to Letter Identification ($r = .517$, $p < .05$) and Letter Sound Understanding ($r = .518$, $p < .05$) on the December post-intervention scores for the intervention group. Similarly, Letter Sound Understanding was significantly correlated with Letter Identification ($r = .818$, $p < .01$) for the intervention group on the December post-intervention scores. The consistently significant correlations between Print Knowledge, Phonological Awareness, Letter Identification, and Letter Sound Understanding for the intervention group and not the control group, was not deemed to be a problem, as this finding is consistent with previous research indicating that these skills are interrelated. Moreover, the statistics for the intervention program are considerably higher than the control group. In general, the results of this study provide evidence for the success of the intervention program at being able to foster an increase in the emergent literacy skills of vulnerable children.

Table 6.

Correlations of December Post-Intervention Assessment by Group

Group		1.	2.	3.	4.
Intervention	**1. December Print Knowledge**	-	-	-	-
	2. December Phonological Awareness	.455	-	-	-
	3. December Letter Name	.906**	.517*	-	-
	4. December Letter Sound	.872**	.518*	.818**	-
Control	**1. December Print Knowledge**	-	-	-	-
	2. December Phonological Awareness	.074	-	-	-
	3. December Letter Name	.365	.038	-	-
	4. December Letter Sound	.142	-.052	.345	-

Note. * Correlation is significant at the 0.05 level.
** Correlation is significant at the 0.01 level.

Concluding Results

The first research question of this thesis was to test the immediate effects of the four-week summer family literacy intervention program. General results indicated that there was a statistically significant difference between the intervention group and the control group for Print Knowledge, Letter Identification, and Letter Sound Understanding, but not for Phonological Awareness. It was evident that children in the intervention group scored statistically significantly higher than the control group on post-intervention measures of Print Knowledge, Letter

Identification, and Letter Sound Understanding. Alternatively, the children in the intervention group did not score significantly higher than the control group on post-intervention measure of Phonological Awareness. In general, the intervention group's scores were more statistically significant than the scores for the control group.

The second research question of this thesis was to measure the sustainability of the gains obtained from the summer family literacy program. General results suggest that for all four of the dependent measures, both the intervention group and the control group displayed a gain in mean scores between the post-intervention and December post-intervention assessments. Similarly, the difference between the groups was not statistically significant for all of the four measures, indicating that both groups exhibited similar levels of progress in Print Knowledge, Phonological Awareness, Letter Identification, and Letter Sound Understanding between the post-intervention and December post-intervention assessments. However, a between-group difference in mean scores remained for Print Knowledge, Letter Identification, and Letter Sound Understanding, but not for Phonological Awareness. Similar to research question 1, the mean scores for the intervention group were considerably higher than the control group, providing evidence supporting the success of the intervention program at being able to foster an increase in the emergent literacy skills of vulnerable children.

CHAPTER 5

DISCUSSION

The purpose of this study was to test the efficacy of a summer family literacy intervention program aimed at supporting young vulnerable learners and their families. More specifically, it was the intention of this study to identify an effective way for caregivers to enhance the emergent literacy skills of their children during the summer months, in order to better prepare them for kindergarten. The results of this study were promising.

At-Risk Children

Prior to the summer family literacy intervention program taking place, all of the participants in the study were identified as at-risk readers by their classroom teachers, and subsequently, through the initial screening process. These children were identified as having below-average emergent literacy skills, which were evident at the time of pre-intervention assessment as indicated by their statistically significant low Print Knowledge (M_i = 11.1; M_c = 12.2), Phonological Awareness (M_i = 12.5; M_c = 10.8), Letter Identification (M_i = 6.5; M_c = 8.3), and Letter Sound Understanding (M_i = 3.1; M_c = 3.4) scores (Table 1). As the pre-intervention assessments took place one month prior to children completing their academic year, the children were identified as being at-risk for future reading difficulties and were subsequently, viewed to be exceptionally vulnerable to the summer learning gap (Cooper et al., 1996). To say that these children are vulnerable to the summer learning gap is to say that the 36 participating children in the study are susceptible to experiencing a significant decrease in their literacy skills as a result of the summer learning gap created by summer vacation. As indicated by Cooper and colleagues (1996), the summer learning gap is particularly detrimental for vulnerable learners, especially for those children who are disadvantaged as a result of requiring special educational needs or who

come from low socioeconomic backgrounds. On average, children experience a one to three months loss of learning during the summer months (Cooper et al., 1996). Without continuous instruction during the summer months, research has found that children with learning disabilities descend further behind their same-aged peers (Alexander et al., 2007b; Katsiyannis, 2007). Given the significant negative impact summer vacation has on children's learning and retention of skills, it was the aim of this study to test the efficacy of a summer family literacy program to reverse the negative effects of the summer learning gap on vulnerable children. As a result of the initial screening process and pre-intervention assessments, 36 children and their caregivers participated in the study. More specifically, 19 of the children and their caregivers participated in the study's summer family literacy intervention program, while the remaining 17 children participated in the control group and were tested at the same intervals as the intervention group.

The study had two main objectives. The first objective of the study was to test the efficacy of a summer family literacy intervention program designed to significantly decrease the learning loss experienced by children who are at-risk for reading difficulties during the summer months. The second objective of the study was to include primary caregivers as authentic partners in the intervention program, by providing primary caregivers with a foundational role in the program. As indicated by Timmons (2008), intervention programs are most successful when they include family members as primary participants. As primary caregivers were integral partners in the program, it was hypothesized that the gains obtained from the four-week intervention program would be sustained long-term, as the participating caregivers would likely continue to implement the literacy strategies learned from the program, in their home environment. While this was not directly measured in the present study, future studies should

consider implementing a family measured into their studies in order to provide greater insight on the families' role in children's success with the intervention program.

To explore the main objectives of the study, two research questions were devised and explored throughout this thesis. The findings of the study will be discussed in greater detail below.

Research Question 1

To recall, the first research question of this thesis was to test the immediate effect of the four-week summer family literacy intervention program. As a result of the program, all children who participated in the intervention program scored statistically significantly higher than the control group on three of the four emergent literacy measures at the time of the post-intervention assessments (immediately following the completion of the program). These results were illustrated by the exceptionally large effect sizes. More specifically, participating children in the intervention program significantly increased their post-intervention assessment mean scores in Print Knowledge ($M = 17.6$), Letter Identification ($M = 10.5$), and Letter Sound Understanding ($M = 5.3$). Conversely, participating children in the control group significantly decreased their post-intervention assessment mean scores from their pre-intervention assessment scores in Print Knowledge ($M = 11.7$), Letter Identification ($M = 7.5$), and Letter Sound Understanding ($M = 2.1$) (see Table 1 for a visual inspection of the means). This finding is supported in the field of the summer learning loss, whereby Alexander et al. (2007b), Cooper et al. (1996), and Katsiyannis (1991) argue that without continuous instruction during the summer months, many vulnerable children descend further behind their same-aged peers. Moreover, it is often the children who can least afford to lose the literacy-based skills learned from the previous school year, and it is these children who end up falling further behind during the summer months (Mraz

& Rasinski, 2007). This emphasizes the need for high quality intervention programs needing to be created specifically for disadvantaged children (Alexander et al., 2007a). As indicated in Figures 1, 3, and 4, the increase in scores for the intervention group and the decrease in scores for the control group from the pre-intervention assessment to the post-intervention assessment for Print Knowledge, Letter Identification, and Letter Sound Understanding can be observed. More specifically, in Figure 4, the children who are not in the intervention group were actually performing worse compared to their own baseline performance, demonstrating a loss in their emergent literacy skills during summer vacation. These graphical representations reinforce the summer learning loss phenomenon experienced by vulnerable children, as proposed by Cooper and colleagues (1996). Specifically, the intervention group did not experience a summer learning loss, while the control group did experience a loss in their emergent literacy skills as they were not exposed to the intervention program nor did they receive any literacy support (as indicated by the decline in post-intervention assessment scores from pre-intervention assessment scores).

The mean scores of the intervention group were statistically significantly higher than the control group on Print Knowledge, Letter Identification, and Letter Sound Understanding. Despite the fact that the other three emergent literacy measures experienced a significant increase in post-intervention assessment scores from the pre-intervention scores, the difference between post-intervention assessment scores for Phonological Awareness was found to be non-significant from the pre-intervention assessment scores for both the intervention group and the control group (refer to Table 1). Therefore, the intervention group did not score significantly higher than the control group on post-intervention measure of Phonological Awareness.

This finding for Phonological Awareness is surprising. A possible explanation for why this difference exists between Phonological Awareness and the other three emergent literacy

constructs is embedded in the literature on Phonological Awareness. In order to understand how children come to acquire Phonological Awareness, it is necessary to re-visit the longstanding debate of nature versus nurture. There has been a re-occurring debate regarding the effects of genetic influence versus the effects of the early environment. As McNamara et al. (2004) stated, research concerning the attainment of literacy acknowledges both nature and nurture as playing significant roles in children's emergent literacy acquisition. Although, research in this field suggest that specific literacy-based skills may be more closely connected to the influence of genetics or the influence of the early environment (Olson, Frosberg, Wise, & Rack, 1994). Based on the findings of the present study, one can conclude that Print Knowledge, Letter Identification, and Letter Sound Understanding are more closely linked to the influence of the early environment debate, whereby a child's participation in an intervention program and exposure to instruction can increase their emergent literacy skills in those specific areas (Duke & Pearson, 2002; Juel & Meier, 1999). In support of this claim, the present study found more significant correlations between three of the four dependent measures after the intervention program was completed than before the intervention took place, providing evidence for the early environment debate. Whereas, based on the Phonological Awareness finding, one can conclude that Phonological Awareness is potentially influenced more by genetics than the environment. However, it is important to note that Phonological Awareness is also influenced by the early environment, but is more greatly influenced by one's genetics. As Snow, Burns, and Griffin (1998) discussed early exposure to the key characteristics of phonology can result in having positive long-term effects on children's later reading achievement. In a longitudinal study, Bryant, MacLean, Bradley and Crossland (1990) they illustrate the importance of early exposure to phonological components. Moreover, in a study conducted by Bryant and colleagues (1990),

when children are exposed to early phonological elements (such as nursery rhymes) at the age of three, they are more likely to have developed phonological awareness skills by the age of four. Based on the findings of the present study and what the current field of phonological awareness states, to increase children's phonological awareness through an intervention program, the program would have to be a much longer, more intensive intervention program that emphasized the repetition of early phonological skills.

In general, these results signify that the summer family literacy intervention program made an immediate impact on the emergent literacy skills of the children involved in the intervention program. All of the children participating in the intervention program displayed significant increases in their Print Knowledge, Letter Identification, and Letter Sound Understanding skills. In consequence, the children who participated in the intervention program have a significant advantage, over the control group children, entering their senior kindergarten school year. These results support the hypothesis whereby children who were exposed to the four-week intervention program would experience an increase in their emergent literacy skills as measured by the Test of Preschool Early Literacy. Moreover, the findings from the present study support the need to have intervention programs such as this one in order to reverse the summer learning loss experienced by vulnerable children.

Research Question 2

The second research objective of this thesis aimed to measure the sustainability of the gains obtained from participating in the summer family literacy program. For all of the measures, both the intervention and control group showed a gain in mean scores between post-intervention and December post-intervention. However, the increases in mean gain scores were not significantly different between the intervention and control group for all of the measures. The

interaction between Group and Time for each dependent measure was not statistically significant, whereby both the intervention group and the control group displayed similar magnitudes of growth in all of the measures (Print Knowledge, Phonological Awareness, Letter Identification, and Letter Sound Understanding) between the post-intervention and December post-intervention assessment points. More specifically, for Print Knowledge, Letter Identification, and Letter Sound Understanding a difference between the groups on mean scores was maintained, illustrating a similar growth in literacy skills of the children in both the intervention and control group (as indicated in Figures 5, 7, & 8). However, for Phonological Awareness, there was no longer a between-group difference in mean scores (as indicated in Figure 6). This suggests that the control group experienced a more rapid growth in skills than the intervention group between the end of the program (post-intervention) and the December post-intervention assessment. As previously discussed, the fact that Print Knowledge, Letter Identification, and Letter Sound Understanding maintained a between-group difference while Phonological Awareness did not is not surprising. A possible explanation for this finding is embedded in the nature versus nurture debate; Print Knowledge, Letter Identification, and Letter Sound Understanding have little to do with genetic influence and are more commonly shaped by the early environment through instruction (Duke & Pearson, 2002; Juel & Meier, 1999; Olson et al., 1994). On the other hand, Phonological Awareness is largely influenced by inherent traits. Therefore, an increase in emergent literacy constructs that are mostly taught through instruction and a decrease in emergent literacy constructs that have a genetic basis was not surprising.

These findings suggest that the gain in children's emergent literacy skills as a result from their participation in the intervention program had been sustained. Based on this finding, one can question why these children were able to sustain the gains obtained from the intervention

program long-term. While it was not the intention of this thesis to explore the rationale of why the gains from the program were sustainable long-term, given the abundance of literature supporting parental involvement in children's academic success, a possible explanation for this finding led to the researcher theorizing that the gains may be a result of the inclusion of caregivers as authentic partners in the summer family literacy intervention program. Primary caregivers and parents played a foundational role in the intervention program. During each session of the intervention program, the caregivers participated in a workshop where they were taught different literacy skills and strategies to successfully support their children in their literacy activities in the home environment. By including the caregivers as authentic partners, according to Timmons (2008) the intervention program had a greater impact on the participating children. The involvement of primary caregivers and parents in an intervention program is essential according to Hess et al. (1982) and Saracho (2002), as primary caregivers play a profound role in influencing their children's ability to attain literacy skills. It was hypothesized that by providing caregivers with the essential skills to facilitate their children's emergent literacy skill development they would be able to take the skills learned from the program and implement them on a daily basis, in their home environment. By doing so, the skills gained from the program would not only be sustained short-term, but also long-term. While the study did not measure how frequently primary caregivers implemented the literacy strategies learned from the program in their home, it is possible that this is one reason as to why the children exhibited maintaining the gains from the intervention program at the December post-intervention assessment.

With regards to Print Knowledge, Letter Identification, and Letter Sound Understanding, the hypothesis that the gains from the four-week summer family literacy intervention program would be sustainable long-term (during the first term of the participating children's kindergarten

school year) was supported. December post-intervention assessment illustrated that children were able to maintain the gains obtained from the program in addition to, continuing to increase their emergent literacy skills, long-term.

Additional Findings

In addition to exploring the two main research questions proposed by this thesis, an interesting finding that aroused from the data analyses was evident in the within-group correlations (illustrated in Table 4). As indicated in Table 4, correlations between measures for the intervention group were significantly higher than they were for the control group. For instance, Print Knowledge is significantly positively correlated with all of the dependent measures where, Phonological Awareness ($r = .469, p < .05$), Letter Identification ($r = .722, p < .01$), and Letter Sound Understanding ($r = .633, p < .01$) are highly correlated on post-intervention assessment scores for the intervention group only. As indicated in Table 4, there were no significant correlations reported for any of the dependent variables in the control group. This finding indicates that the intervention program enabled children to implicitly understand that these constructs are all related. Alternatively, children in the control group were unable to make this connection between the different constructs, suggesting that these children continue to implicitly treat these skills as separate entities.

Research Implications

The importance of emergent literacy and children's development of emergent literacy skills has been well documented in research over the past decade. Research emphasizes the importance of emergent literacy skills in predicting latter literacy achievement (Lonigan, 2006; Massetti, 2009). More specifically, research accentuates the importance of preschool-based capabilities in developing essential emergent literacy skills for future reading success (Adams,

1990; Lonigan, 2006; Snow et al., 1998). As confirmed by the sample of participants in the present study, a small subset of junior kindergarten children have not yet acquired the necessary emergent literacy skills required for later reading success, and, in consequence, are at-risk for experiencing later reading difficulties. Nevertheless, as this study indicated, with appropriate, effective literacy intervention, vulnerable children are able to improve their emergent literacy skills and reduce the risk of later reading failure.

The present study has a number of research-based implications that may have had a role in influencing the results of the study. Such implications specifically relate to the structure of the intervention program, the inclusion of families in the intervention program, and relates specifically to the summer learning loss phenomenon. Each implication will be discussed below in more detail.

The first important research-based implication pertains to effective programming of the intervention program itself and its impact on the results of the study. The summer family literacy program was adapted and implemented based on a published study entitled, *Learning Begins at Home: A Research-Based Family Literacy Program Curriculum* (Doyle et al., 2008). The foundation of the present intervention program is similar to that of the published study. A primary focus of the intervention program was on children's development of Print Knowledge, Phonological Awareness, Letter Identification, and Letter Sound Understanding. Throughout research, these emergent literacy constructs have repeatedly been highlighted as essential to any intervention program aimed at supporting children's emergent literacy skill development (Lonigan, 2006; Massetti, 2009; Wilson & Lonigan, 2009). Snow and colleagues (1998) argue that throughout research Print Knowledge, Phonological Awareness, Letter Identification, and Letter Sound Understanding are consistently found to be statistically significant predictors of

later reading achievement. The present study supports this research, as significant gains were found in children's post-intervention and December post-intervention scores from the intervention group for Print Knowledge, Letter Identification, and Letter Sound Understanding.

A second significant research-based implication is concerning the inclusion of primary caregivers in the summer family literacy intervention program. It has been well documented in research that the role primary caregivers play in an intervention program is the most influential on a child's later academic success (Timmons, 2008). Consequently, a primary feature of this research project was to include primary caregivers as authentic partners in a summer family literacy intervention program, fabricated to scaffold their children's literacy-based needs. The primary caregiver (i.e., mother, father, grandparent, etc.) played a foundational role in the intervention program, through their participation in various workshop activities prior to and following hands on work with their child. During each workshop, the primary caregivers were taught different emergent literacy concepts to utilize in order to foster their children's emergent literacy development. More specifically, the caregivers were taught various techniques, strategies, and skills to assist their child in literacy activities in the home environment, and they were also provided with the opportunity to raise any questions or concerns they had with a Speech and Language Pathologist. Even though the present study did not specifically measure the level of caregiver involvement throughout the process, it was predicted that the December post-intervention assessment results may incidentally signify that caregivers continued to use the strategies, skills, and techniques taught to them in the intervention program in the home environment their children. Accordingly, the gains children achieved from participating in the summer family literacy intervention program would be sustainable long-term.

The third noteworthy research-based implication is concerning the summer learning loss phenomenon, as discussed by Cooper and colleagues (1996). The participating children in the study were identified by their classroom teachers to be at-risk, as well as through the initial screening process as having reading difficulties. All of the participants in the study had emergent literacy skills that fell below the 25th percentile rank on the Test of Preschool Early Literacy, in addition to indicating having considerably lower than average letter knowledge scores. In consequence of the screening process and meeting the eligibility guidelines, the participating children were deemed to be vulnerable for reading difficulties. Based on Cooper and colleagues (1996) findings on the summer learning gap, the summer learning loss created by summer vacation may be particularly detrimental for the children in the present study, as they are considered to be vulnerable learners based on their reading difficulties. Furthermore, without continuous instruction during the summer months, the participating children had the potential to descend further behind their same-aged peers, particularly in their literacy-based skills. As Mraz and Rasinski (2007) indicated, it is often the children who can least afford to lose the literacy based skills they have learned during the school year, and it is these children who end up falling further behind during the summer months. Fortunately for the participating children (from the intervention program) in the present study, they participated in a summer family literacy intervention program aimed at supporting children in their attainment of emergent literacy skills while reversing the negative effect of the summer learning gap. As a result of the intervention program, the children involved in the intervention group did not experience a summer learning loss, and in actual fact, experienced a gain in their emergent literacy skills, while the control group continued to show a decline in their emergent literacy skills, suggesting a loss in learning as a result of the summer learning gap.

Policy and Practice Implications

In addition to research-based implications, this study holds a number of policy and practice-based implications. Research on emergent literacy has significantly increased the knowledge of children's acquisition of literacy and literacy-based skills throughout the years. Timmons (2008) argues that the role primary caregivers play in an intervention program is the most influential on a child's future literacy achievement. Based on the current state of research concerning family involvement in intervention programs, the present study incorporated primary caregivers as a fundamental component in the intervention program, by providing caregivers with the appropriate support and resources to boost their confidence in their ability to support and assist their children with literacy activities in the home environment. As previously discussed in the methodology section, caregivers took part in various workshops where they were provided with the opportunity to learn new skills, discuss any new ideas, and raise any questions they have concerning a new technique or strategy. The familial component of the intervention program plays an essential role in the overall success of the program. Based on the findings of the present study, future literacy intervention programs for vulnerable children should include caregivers as integral parts of the program to enhance the success of the intervention by having caregivers take the various strategies and techniques learned in the program and implement them in the home environment. One of the largest factors in children's ability to acquire emergent literacy is repetition; by children being exposed to support in literacy activities in the intervention program as well as at home, it increases the chance children have with attaining the essential emergent literacy skills while reducing the chance for children to have reading difficulties.

Research indicates that the learning gap created by summer vacation creates a significant breach in the learning cycle, especially for those children at-risk of reading difficulties (Cooper et al., 2000). Moreover, children's achievement levels decrease over the course of the summer and result in some children falling below their same-aged peers on literacy achievement (Cooper et al., 1996). It was the intention of the present study to foster the emergent literacy skills of children, who were deemed to be at-risk for reading difficulties, during the summer months in an attempt to reverse the gap in summer learning. As indicated by the results of the present study, when children are exposed to programs for emergent literacy during summer vacation, children are able to increase their achievement levels in emergent literacy. This is an important finding that school boards should be made aware of. School boards should explore the possibility of providing intervention programs, such as the present one, to further help other young vulnerable children increase their achievement levels while protecting them from the negative effect of the summer learning gap. It is important to note that educators, policy makers, and school boards should be made aware of the learning gap that occurs between high socioeconomic and low socioeconomic children during the summer months. In order to provide the full benefit of an intervention for vulnerable children, educators and policy makers need to implement high quality programs, such as the present one, specifically targeting disadvantaged and vulnerable children, in order to compensate for the learning gap.

The success of the program was largely based on the collaboration of the research team, which included the researchers, Speech and Language Pathologists, Literacy Specialists, primary school teachers, and the local school board. While all of these individuals come from different backgrounds, they all shared the common goal of improving and supporting children in their attainment of emergent literacy through the summer months. Through the collaboration of

professionals, each individual provided the research team with expertise and resources to create a successful program to better serve this particular population. Based on the success the present study had with the collaboration of individuals, future programs should consider the benefits of collaborating with a broad range of professionals, who share a common goal, in order to provide the children involved in the study with the strongest, most successful program.

Lastly, this project could not have been conducted without financial aid. In order for programs such as this to continue on, the school boards in addition to the government need to be made aware of the extent to which summer vacation has on children's achievement levels, particularly for vulnerable children. If the government and school boards are made aware of the significant breach in the learning cycle created by summer vacation, they may be more apt to provide funding for programs like the one in the present study to continue to be run each summer, supporting more and more vulnerable children in their attainment of emergent literacy skills.

Limitations and Future Research

Although the present study provides evidence that the negative effect of the summer learning gap can be reversed for vulnerable children at-risk for reading difficulties, it is acknowledged that there are limitations to the study. First, there is a lack of a direct measure of caregiver involvement. The primary caregivers played an integral role in the intervention program. The purpose of including the primary caregiver as an authentic partner in the program was to encourage a definitive shift in the family, whereby caregivers would implement the literacy activities into their daily routines. Based on the foundational role of the caregivers in the intervention program, family measures should be included in the study in order to provide greater insight into the role of families in children's success with the intervention program. Also,

by including family measures in the study, it will provide greater insight into how frequently or infrequently families worked with their children on attaining their emergent literacy skills. While the December post-intervention assessment scores provided some insight into caregiver involvement, it would be beneficial for future studies to incorporate a measure of caregiver involvement to determine the success of the program.

Secondly, this study had a relatively small sample size of thirty-six participants and the sample came from only one school board. However, by having a small sample size, it afforded the research team with the time to work one-on-one with each participating child, which is an important asset in remedial instruction. In addition, the research team was able to thoroughly observe the progress and achievements of the participants and their caregivers. For future research, a larger study that encompassed more schools and other school boards from different regions would be beneficial. Also, future research should consider adapting the program to meet children with significant English as a Second Language difficulties as they were excluded from the present study. Given Canada's multicultural population, there are a significant number of children who are facing English as a Second Language deficits. Therefore, it would be beneficial to see how successful the present intervention program would be for second language learners.

Also, in this study, the sustainability of the gains obtained from the program were obtained four months following the completion of the intervention program. In a future study, to have a greater understanding of the sustainability of the gains achieved from the intervention program, a longitudinal study should be conducted where participants would be assessed at various assessment points in the following year. In addition to the child participants being examined by a Speech and Language Pathologist, primary caregivers should also complete

surveys concerning the frequency of practicing literacy in their home environment with their children to provide insight into the success of the familial component of the program.

Lastly, it is important to acknowledge that within any study conducted over a period of time, the children are continually growing and learning. All of the increases in learning cannot be directly attributed to the intervention program within the study (Young, 2009). At the time of the follow-up assessment in December, children were exposed to the formal school environment for four months. There is a possibility that the sustainability of gains was due to something other than the intervention program. While, the results indicate that both the intervention group and the control group continued to increase their emergent literacy skill achievement at similar magnitudes of growth, the intervention group's December post-intervention assessment scores were still significantly higher than the control group. This provides support for the effectiveness of the intervention program in increasing children's emergent literacy skills.

Conclusions

The main objective of this thesis was to study the efficacy of a summer family literacy intervention program designed to support young vulnerable learners and their caregivers. The results of this study hold significant implications for research, policy, and practice regarding supporting young vulnerable learners and their caregivers. As research indicates, vulnerable children who are at an increased risk for reading difficulties are exceptionally susceptible during the summer months. Consequently, it is incredibly important for educators, policy makers, and school boards to consider different ways to effectively support these children during the summer months, in order to eliminate the potential negative impact the summer learning gap has on these children. Based on the findings of this thesis, summer family literacy intervention programs are a successful way to eliminate the summer learning gap that is so detrimental to vulnerable learners.

Likewise, by incorporating caregivers as foundational partners in the literacy intervention program, it will have a meaningful influence on the sustainability of the gains obtained from the intervention program. Additionally, by incorporating caregivers as authentic partners, parents and caregivers are able to learn various techniques and strategies to help support their children, while boosting their confidence in their ability to be an essential asset to their children's education.

In conclusion, with regards to the summer learning loss phenomenon, the children who participated in the summer family literacy intervention program did not experience a loss in academic achievement and demonstrated a gain in emergent literacy skills, while the control group, who did not receive any formal instruction or support over the course of the summer, experienced a loss in skills during the summer months. These findings reiterate what Cooper and colleagues (1996) found; children who are at-risk for reading difficulties and are not exposed to any formal intervention and do not receive any literacy support during the summer months, experience a decline in their emergent literacy scores. Consequently, these children are starting the new school year, already academically behind their same-aged peers, only intensifying the achievement gap between the advantaged children and disadvantaged children. Children who participated in the intervention group have a significant advantage, over the control group children, entering their senior kindergarten school year. It is expected that the achievement gains children obtained from the intervention program will be sustained throughout their senior kindergarten year, placing these once at-risk children for reading difficulties, at an equal level as their same-aged peers. Moreover, by including caregivers as foundational components to the program, it is the hope of the research team that the parents will continue to practice the skills and strategies they learned from the literacy program in the home environment, supporting their

children in their academic achievement while simultaneously sustaining the gains from the program.

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